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STIC-Biotech/ChemLib

From: Sent:

To:
Subject:

Holleran, Anne Thursday, November 09, 2000 1:54 PM STIC-Biotech/ChemLib

sequence search for 09/266,543

Please search the following sequences for 09/266,543:

- 1. commercial and interference search of SEQ ID NO: 1 (aa)
- 2. commercial and interference search of SEQ ID NO: 2 (aa)
- 3. commercial and interference search of SEQ ID: NO: 3 (aa)
- 4. commercial and interference search of SEQ ID NO: 4 (aa)
- 5. commercial and interference search of SEQ ID NO: 5 (aa)
- 6. commercial and interference search of SEQ ID NO: 6 (aa)
- 7. commercial and interference search of SEQ ID NO: 7 (aa)
- 8. commercial and interference search of SEQ ID NO: 8 (aa)
- 9. commercial and interference search of SEQ ID NO: 9 (aa)

Thanks

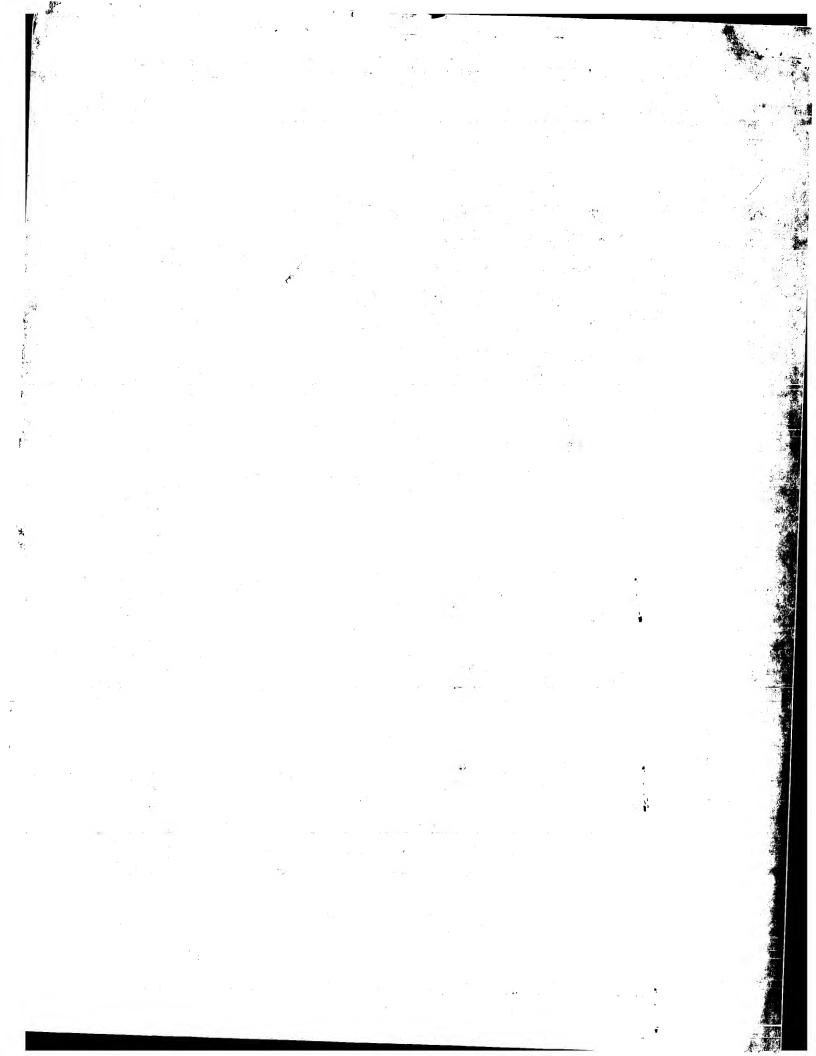
Anne Holleran AU:1642

Tel: 308-8892 Room: 8E03

Thanks

Anne Holleran AU:1642

Tel: 308-8892 Room: 8E03



A IG

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SX EX
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                                                                                                                                                                                                                                                                                        Matches
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                                                                                                                                                                                  22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                residue sequence Pro-Asp-Gly-Arg which constitutes residues 36-35 basic FGF; it is also antagonistic to acidic FGF. The antagonist modulates growth of epithelial (and related) cells and can be use diagnostically or therappeutically, eg to treat proliferative diseases of eyes and kidneys, some types of tumours and adrenal vascularisation. It is able to bind with heparin or with the FGF
                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                 Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                       05-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                The peptide bFGF(24-68)-NH2 (100mcg/ml) radioactive bFGF bound to the BHK cells affinity to bind heparin.
                                                                                                                                                                                                                                                                    US5252718-A
                                                                                                                                                                                                                                                                                                                                                                                  FGF antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                           R43278
                                                                                                                                                                                                                                                                                                                                                                                                                                              R43278 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               See ālso P71542, P71557,
                                                                                                                                                                                                                            22-APR-1986;
                                                                                                                                                                                                                                               12-OCT-1993
                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                       New fibroblast growth factor peptide(s) used to inhibit cell growth in culture or
                                                                                                                        WPI; 1993-336156/42.
                                                                                                                                           Baird JA,
Sequence
                                                           Example 1; Column 10; 12pp; English
                                                                               retinopathy,
                                                                                                                                                               (SALK ) SALK INST BIOLOGICAL STUDIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45 AA;
                                                                                                                                           Ling NC;
45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                              glomerulonephritis,
ξ
                                                                                                                                                                                   860S-0854843.
880S-0270225.
920S-0873773.
                                                                                                                                                                                                                                                                                                                                                                                   bFGF (24-68)-NH2
                                                                                                                                                                                                                            86US-0854843
                                                                                                                                                                                                                                                                                                  Location/Qualifiers 45
                                                                                                                                                                                                                                                                                                                                                                                                                                              peptide; 45
                                                                                                                                                                                                                                                                                        /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                         "amidated"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 239; DB 8;
Pred. No. 4.2e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                melanoma
                             reduces
by 54% a
                                                                                  etc.
                                                                                           are FGF antagonists
in disease e.j.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                               s the amount of and shows strop
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                                strong
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Query Match Best Local Similarity Watches 45; Conserv

Conservative

0

100.0%;

Score 239; DB 14; Pred. No. 4.2e-26; ; Mismatches 0;

Length

45;

Indels_{'!}

0

Gaps

0

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25

69

Query Match Best Local (Matches

Similarity

100.0%; ilarity 100.0%; Conservative 0

0

Score 239; DB 9; Pred. No. 9.1e-26; ; Mismatches 0;

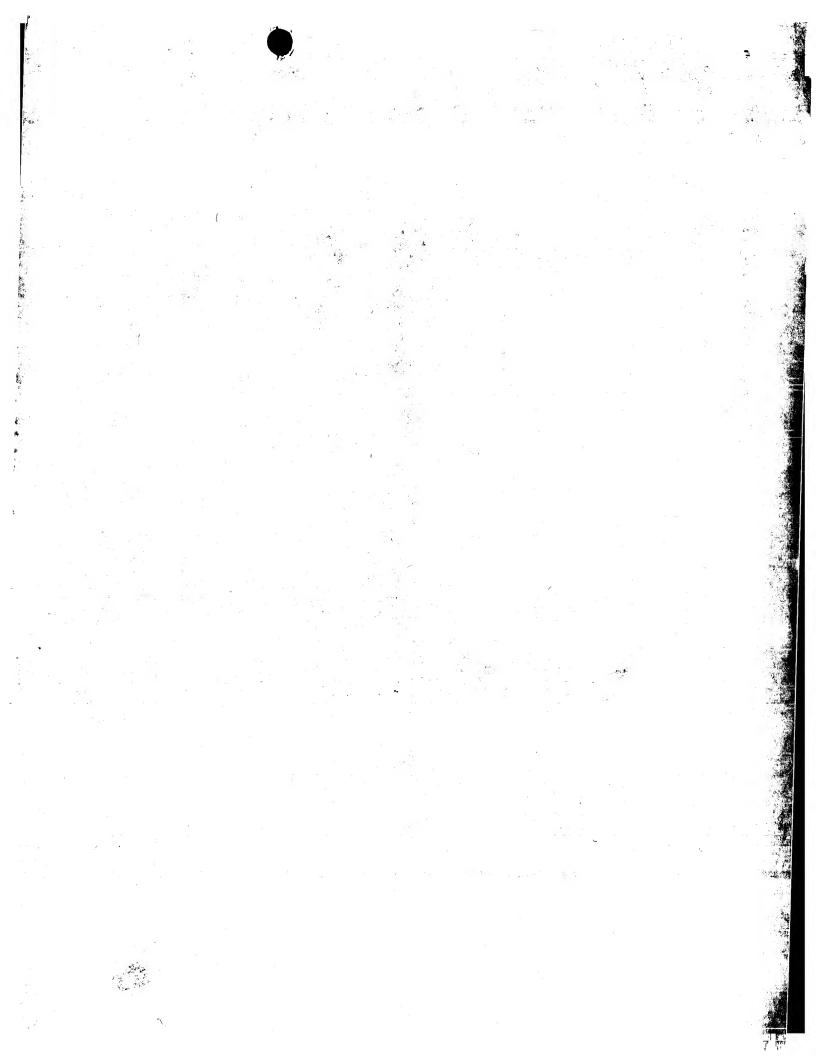
Length 86; Indels

Gaps

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P81933
                      Using plasmid pTB796, E.coli MM294 was transformed, whereby the CC strain E.coli MM294/pTB796 was obtained, which (IFO 14701, FERM BP-1661; CC harbors the plasmid pTB796 expressing the mutein represented here. CC The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity.

CC It can be used as a healing accelerator for e.g. burns, wounds CC It can be used as a healing accelerator for e.g. burns, wounds CC angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein CC where at least one constituent cysteine is replaced by serine is C preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated.

CC See also N81971-97.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human basic fibroblast growth factor; human bFGF mutein C86; growth promoting activity; growth stimulating activity; phage M13-PC86; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-OCT-1990
                                                                                                                                                                                                                                          Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, growth stimulating activity of capillary endothelial cells and angiogenic activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EP281822-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human basic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P81933 standard;
                                                                                                                                                                                                                   Disclosure; ; lpp; English.
                                                                                                                                                                                                                                                                                                 N-PDSB; N81990
                                                                                                                                                                                                                                                                                                                                          Senoo M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-SEP-1988.
Sequence
                                                                                                                                                                                                                                                                                                               WPI; 1988-258580/37.
                                                                                                                                                                                                                                                                                                                                                                  (TAKE ) TAKEDA CHEMICAL IND KK
                                                                                                                                                                                                                                                                                                                                                                                                                        20-FEB-1988;
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 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
 ΑĄ,
                                                                                                                                                                                                                                                                                                                                                                                                £7JP-0042218
                                                                                                                                                                                                                                                                                                                                                                                                                        88EP-0102491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers 87..87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label-mutation_Lys_to_stopcodon
/note-"creates AF1 II recognition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein;
                                                                                                                                                                                                                                                                                                                                          Igarashi K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          factor mutein C86
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                                                           intermolecular bridges
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phage M13-PC86
                                                                                                                                                                                  BP-1661)
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Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM protein - protein search, using sw model
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            on:
                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                 Score
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2: \SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT: *
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Gapop 10.0 , Gapext 0.5
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115
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Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9, 2000, 15:30:36;
                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                       P71557
R43293
R43274
R65933
                                                                                                             R34495
P71145
    P80613
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                         R33278
Y81941
                                                                   R25943
R27717
                                                                                                                                                                                                                                                                                                                                                            SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Compugen
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7.569 Million cell updates/sec
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                                                                                                         FGF antagonist bFG
Fibroblast Growth
FGF antagonist bFG
FGF antagonist bFG
Rat fibroblast gro
Rat basic Fibrobla
Basic fibroblast g
                     Bovine basic FGF.
Mammalian basic FG
bFGF. Rattus ratt
Recombinant bovine
  Sequence of
                                                                                                                                                                                                                                                                                          Description
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RESULT R43297

R43297 standard; peptide; 21 AA.

05-MAY-1994 (first entry)

FGF antagonist bFGF(100-120)-NH2.

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112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	115	115	115
97.4	97.1	97.4	97.1	97.4	. 97.4	97.4	97.1	97.1	97.4	97.4		97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4			97.4		97.4	•	•	100.0	•	100.0
146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	145	139	138	138	137	135	134	132	129	129	129	123	107	86	55	155	155	147
15	15	15	15	14	14	14	14	13	13	13	13	13	12	9	13	9	10	10	12	15	9	20	10	10	9	10	യ	13	17	18	œ	10
R65928	592		R65925	R42835	R39188	R39190	R34494	R27967	R27966	R27965	R25423	R25197	R11427	P82579	R24408	P81937	P90565	P90563	R14550	R65932	P81932	Y17995	P90564	P90562	P81940	P90561	P81939	R24341	R93217	W20029	P70671	P90085
Fibroblast growth			'n	bFGF mutein CS23.	basic		Human basic Fibrob		bFGF mutein BFM4.		bFGF derivative.	Basic fibroblast g	Basic fibroblast g	ic f	Sequence of basic	asic fil	mutein	rhbFGF mutein Cl37	a-bFGFab63/73 hybr			basic fi	rhbFGF mutein CS23	O.		F mute	Human basic fibrob	FGF residues 70-15	Partial fibroblast	nant	e of bo	Bovine basic fibro

ALIGNMENTS

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22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                  ц<u>§5252718-А</u>
                                                                                                                                                        Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
     WPI; 1993-336155/42
                                                                                                                       Key
Modified-site
                                                                                                                                           Synthetic.
                  Baird JA, Ling NC;
                                                                        22-APR-1986;
                                                                                      12-OCT-1993.
                               (SALK ) SALK INST BIOLOGICAL STUDIES.
                                             36US-0854843.
38US-0270225.
32US-0873773.
                                                                        36US-0854843
                                                                                                                        Location/Qualifiers
                                                                                                                 /note= "amidated"
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PRESSULT
P711527

XX P7

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                                                                                  Ouery Match 100.0%; sest Local Similarity 100.0%; sest Local Similarity 100.0%; sesting 100.0%
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                                                                                                                                                                                                                                                                                                                                   The C-terminal group is -NH2 or -OH. The invention also covers fragments of this peptide which retain the ability to bind with heparin or with the FGF receptor. The sequence includes the basic FGF. They are also antagonistic constitutes residues 107-110 of modulate growth of epithelial (and related) cells and can be used diseases of eyes and kidneys, some types of tumours and adrenal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SXXCCCXXX
                                                                                                                                                                                                                                                                                           vascularisation.
See also P71542, P71558-9, P71561.
                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New polypeptide antagonists of fibroblast growth factor effective against basic or acidic forms, useful eg for t proliferative diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SALK ) SALK INST FOR BIOL STUD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-APR-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-APR-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-NOV-1987.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP246753-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   fibroblast growth factor; FGF; heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fibroblast Growth Factor antagonist #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P71557;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The peptide bFGF(100-120)-NH2 exhibits very good inhibition of bFGF-induced mitosis, strongly inhibits bFGF binding to BHK cells and it binds itself to heparin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 18B; Column 16; 12pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New fibroblast growth factor peptide(s) - are pased to inhibit cell growth in culture or in d. retinopathy, glomerulonephritis, melanoma etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1; Page 15; 18pp; English.
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                                                                                                                                                                                                                                                           28 AA;
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21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ling NCK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86US-0854843.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 115; DB 1
100.0%; Pred. No. 2e-10;
tive 0; Mismatches
                                                                Score 115; DB 8;
Pred. No. 2.7e-10;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                are FGF antagonists
in disease e.g.
                                                                                                                          Length 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             eg for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14;
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                                                                Indels
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                                                         0,
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                                              Gaps
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FGF antagonist bFGF(93-135).
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RESULT
R43274
ID R4
XX
AC R4:
XX
DT 05:
XX
DE FGI
                                                                                                                                                                      Matches
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Best Local (
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R43293
          05-MAY-1994 (first entry)
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                                R43274;
                                         R43274 standard; peptide; 43
                                                                                                                                                                      The peptide bFGF(93-120)-NH2 is a specific example of a peptide of the invention; it has full antagonist activity to both basal and bFGF-stimulated endothelial cell growth, it binds to heparin and inhibits the binding of bFGF to BHK cells.
                                                                                                                                                                   Sequence
                                                                                                                                                                                                                               New fibroblast growth factor peptide(s) - are FGF antagonists used to inhibit cell growth in culture or in disease e.g. retinopathy, glomerulonephritis, melanoma etc.
                                                                                                                                                                                                                                                                                                                             22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                    Example 16; Column 15; 12pp; English.
                                                                                                                                                                                                                                                                          WPI; 1993-336156/42.
                                                                                                                                                                                                                                                                                              Baird JA,
                                                                                                                                Local Similarity
                                                                                            1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                        (SALK ) SALK INST BIOLOGICAL STUDIES
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                                                                                                                                                                                                                                                                                                                                                                22-APR-1986;
                                                                                                                                                                                                                                                                                                                                                                                12-OCT-1993.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bovine; basic fibroblast growth factor; an melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FGF antagonist bFGF(93-120)-NH2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R43293;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R43293 standard; peptide;
                                                                                    snnyntyrsrkysswyvalkr 28
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88US-0270225.
92US-0873773.
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                                                                                                                             100.0%;
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                                           A
                                                                                                                Score 115; DB 14;
Pred. No. 2.7e-10;
0; Mismatches 0;
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                                                                                                                               Length 28;
                                                                                                                Indels
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RESULT
R65933
ID R6
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AC R6
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DT 10
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DE R8
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Best Local
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14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                                                   Peptides having the sequence of amino acids 93-135 of bFGF (R43274) or C-terminally truncated fragments which contain the sequence YRSRXYSSWY are claimed. The peptides are FGF antagonists and can be used to regulate cell growth and proliferative diseases.

N.B. the sequence given in Claim 1 and assigned GENESEO Accession No. R43275 includes an additional Tyr residue between Tyr115 and Vall16; this residue does not, however, appear in any of the peptides "according to Claim 1" (see Features Table in R43274).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New fibroblast growth factor peptide(s) - are FGF antagonists used to inhibit cell growth in culture or in disease e.g. retinopathy, glomerulonephritis, melanoma etc.
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               Rat fibroblast growth factor (FGF) partial sequence
                                          10-JUL-1995 (first entry)
                                                                                                    R65933 standard; Protein; 134
                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1993-336156/42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Baird JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SALK ) SALK INST BIOLOGICAL STUDIES
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Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peptide
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                                                                                                                                                                                        SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                          snnyntyrsrkysswyvalkr
                                                                                                                                                                                                                                    21;
                                                                                                                                                                                                                                                  Similarity
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                                                                                                                                                                                                                                                                                                            43 AA;
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                                                                                                                                                                                                                                    Conservative
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88US-0270225.
92US-0873773.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22; 12pp; English.
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14..28
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14..26
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14..33
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Claim 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Claim 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Claim 2 (C-terminally amidated)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "opt. amidated"
                                                                                                                                                                            28
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                                                                                                                                                                                                                                 Score 115; DB 14;
Pred. No. 4.2e-10;
; Mismatches 0;
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                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                    Indels
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Best Local Similarity 100.0%;
Matches 21; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Any naturally occuring fibroblast growth factor (FGF) containing one of the sequences described in R65930-R65935, into which at least one artificial glycosylation site has been induced, where the site/s are glycosylated with sugar chains selected from the following group N-acetyl glycosamine, N-acetyl galactosamine, mannose, galactose, fucose and cyalic acid, is claimed. These muteins have improved stability, intracellular productivity and cell growth promoting activity, they can also be produced in larger amounts than FGF isolated from natural sources. The muteins can be used in the treatment of traumas and burns, and in the production of a preventative therapeutic medicine for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Muteins of naturally occurring fibroblast growth factor - i which have been introduced at least one glycosylation site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fibroblast growth factor; FGF; glycosylation sites; traumas; burns; thrombosis; arteriosclerosis.
                                            31-MAY-1990;
                                                                                                                                                                                                                                                  06-AUG-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1994-349502/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-APR-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus rattus
                                                                                                                                                                                      bFGF; mutein; glycoslation site; glycoprotein.
                                                                                                                                                                                                                                                                               R34495;
                                                                                                                                                                                                                                                                                                          R34495 standard; protein; 145 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Igarashi K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-APR-1990;
               (TAKE ) TAKEDA
                                                                      30-MAY-1991;
                                                                                                   30-MAR-1993.
                                                                                                                                JP05076356-A.
                                                                                                                                                                                                                     Rat basic Fibroblast Growth Factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thrombosis and arteriosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                  88
                                                                                                                                                                                                                                                                                                                                                                                              1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                       σ
                                                                                                                                                                                                                                                                                                                                                                                  snnyntyrsrkysswyvalkr 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Column 4; 31pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sasada R,
                                                                                                                                                                                                                                                  (first entry)
             CHEM IND LTD
                                          90JP-0143388
                                                                       91JP-0127435
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Pred. No. 1.4e-09;
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Best Local s
Matches 21
                                                                            The purified bFGF may be easily produced from an expression system transformed by a vector carrying the sequence encoding the polypeptide. The bFGF peptides are mitogenic for a wide variety of cell lines, and in eliciting an angiogenic response and thus in
                                                                   Sequence
                                                                                                                                           Claim 1; Page 24; 29pp; English.
                                                                                                                                                        Pure basic fibroblast growth factor - produced by insersynthesised DNA chain into cloning vector and producing transformed cell lines.
                                                                                                                                                                                                                         Esch
                                                                                                                                                                                                   WPI; 1987-007193/01.
                                                                                                                                                                                                                                   (SALK ) SALK INST FOR BIOL STUD.
 1 SNNYNTYRSRKYSSWYVALKR
                                Local
                                                                                                                                                                                                                                                         20-JUN-1985;
                                                                                                                                                                                                                                                                          18-JUN-1986;
                                                                                                                                                                                                                                                                                             31-DEC-1986.
                                                                                                                                                                                                                                                                                                         W08607595-A
                                                                                                                                                                                                                                                                                                                               Bos taurus
                                                                                                                                                                                                                                                                                                                                                 Mitogenic;
                                                                                                                                                                                                                                                                                                                                                           Basic fibroblast growth factor.
                                                                                                                                                                                                                                                                                                                                                                                   11-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                        P71145;
                                                                                                                                                                                                                                                                                                                                                                                                                 P71145 standard; protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and thrombosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention covers muteins of FGF (esp. least one glycosylation site. The muteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 3; 23pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FGF mutein prepn. useful for therapy of burn or thrombosis -
transformation of lymphocyte-contained animal cell by vector
contg. DNA encoding FGF mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                             99 snnyntyrsrkysswyvalkr 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1993-139564/17
                                                                                                                                                                                                                        FS,
                   l Similarity
21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                           7
                                                                  146 AA;
                                                                                                                                                                                                                     Bohlen P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                  100.0%;
llarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                              angiogenic; bFGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                145 AA;
                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                       85US-0747154.
                                                                                                                                                                                                                                                                      86WO-US01318.
                                                                                                                                                                                                                  Baird A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                  0;
           Score 115; DB 8; I
Pred. No. 1.6e-09;
"" ematches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                          Gospodarowicz DJ, Ling NCK;
                                                                                                                                                                                                                                                                                                                                                                                                                  Å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 115; DB 14;
Pred. No. 1.5e-09;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bFGF) which contain at can be used to treat burns
                             Length 146;
            Indels
                                                                                                                                                                        inserting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
           0,:
        Gaps
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RESULT
R27717
ID R2
XX
AC R2
XX
DT 16
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Best Local S
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16-MAR-1993 (first entry)
                             R27717;
                                                 R27717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                        The peptide is a bovine basic fibroblast growth factor. Truncated analogues of this peptide (esp. comprising residues 24-68) can be used as bpgr antagonists, and can therefore interact or inhibit the peptide analogues can be used in human and other call growth. The diagnosing and treating vasoproliferative diseases of the eye (e.g. chondrosarcoma), adrenal vascularisation and to inhibit umours neovascularisation of solid tumours. The peptide analogue should other call of the eye (e.g. chondrosarcoma), adrenal vascularisation and to inhibit also be effective in combating the growth of human melanomas and oncogenes such as hst/K53. See also R25944-5.
                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                       New polypeptide(s) as fibroblast growth factor antagonists treatment of chondrosarcoma, diabetic retinopathy and glomerulonephritis and for diagnosis
                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 1; 12pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1992-267992/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Baird AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (SALK ) SALK INST BIOLOGICAL STUDIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-NOV-1988;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US5132408-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fibroblast growth factor; fragment; analogue; antagonist; growth; vasoproliferation; diabetic retinopathy; glomerulonephritis; chondrosarcoma; adrenal vascularisation; neovascularisation; melanomas; hst/K53.
                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bovine basic FGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-JAN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R25943;
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                                            standard;
                                                                                                                                            l Similarity
21; Conserva
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                                                                                                                                            Conservative
                                           protein; 146
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100.0%; g
tive 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide;
                                                                                                                                     Score 115; DB 13;
Pred. No. 1.6e-09;
); Mismatches 0;
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R33278
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Best Local S
Matches 21
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09-NOV-1984;
20-JUN-1985;
10-DEC-1986;
31-DEC-1987;
                                                                                                                      R33278;
                                                                                                                                                                                                                                                                                                                                         FGF may be synthesised using recombinant DNA techniques (see also Q29741). This peptide is biologically active and exhibits either no or random disulphide bonding within the molecule. This protein, an analogue, a biologically active fragment, or a non-toxic salt of it may be used in a pharmaceutical composition for diagnostic or therapeutic uses. This may be used in in vitro cell proliferation procedures, eg. nerve regeneration and wound healing.
                                                                                                                                                                                                                                                                                                                                                                                                                             This substantially pure protein was purified from partially purified basic fibroblast growth factor (FGF) by cation exchange HPLC and two reverse-phase HPLC steps. Having purified this protein to apparent homogeneity the amino acid sequence can be determined and pure basic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Purified mammalian basic fibroblast recombinant method, is useful e.g. f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; Column
JP05041988-A
                                               Rat; bFGF; vector;
                                                                                              16-JUL-1993
                                                                                                                                               R33278 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Basic fibroblast growth factor; FGF; cation exchange HPLC; reverse-phase HPLC; homogeneity; recombinant DNA; disulphide bond; non-toxic salt; pharmaceutical; diagnostic; therapeutic; in vitro cell proliferation; nerve regeneration; wound healing.
                        Rattus rattus
                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SALK ) SALK INST BIOLOGICAL STUDIES.
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Local Similarity 100.0%;
les 21; Conservative
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                                                                                                                                                                                                                                                                                                                     146 AA;
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84US-0670160.
85US-0747154.
86US-0940524.
87US-0139953.
90US-0462126.
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                                                                                                                                               Protein; 146 AA
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                                               T7
                                                                                              entry)
                                               promoter;
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                                                                                                                                                                                                                                                         Score 115; DB 13;
Pred. No. 1.6e-09;
; Mismatches 0;
                                               active
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gospodarowicz D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  growth factor - produced by for promoting wound healing
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Best Local S
Matches 21
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13-OCT-1998;
13-OCT-1998;
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15-FEB-1991;
06-JUN-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The sequence given represents rat bFGF. The cDNA encoding this peptide was used in the construction of a vector also containing T7 promoter. The vector can be used to produce large amounts of
                                     Composition for inducing angiogenesis or treating coronary artery disease comprises fibroblast growth factor-2 or angiogenically active fragment or mutein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Prepn. of rat bFGF protein - by culture of transformants contg. vector contg. rat bFGF coding nucleotide sequence and T7 promoter and purificn. using chromatography
                                                                                                                                      WPI; 2000-256860/22
N-PSDB; A07355.
                                                                                                                                                                                                                                                                                                                                                                               27-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200013701-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Recombinant bovine FGF-2 protein sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Y81941;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Y81941 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1993-103610/13.
N-PSDB; Q38566.
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                                                                                                                                                                                                         (CHIR ) CHIRON CORP
(WHIT/) WHITEHOUSE 1
                                                                                                                                                                                                                                                                                                                                                                                                                               16-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FGF-2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ow; fibroblast growth factor artery disease; human; acute
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                                                                                                                                                                                                                                                                                 98US-0145743.
98US-0104102.
98US-0104103.
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91JP-0022207.
91JP-0134768.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein;
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Pred. No. 1.6e-09;
Mismatches 0;
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    angiogenesis; unstable
e myocardial infarction; th

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Claim 3; Page 53-59; 60pp; English

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RESULT 12
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ID P80613
XX P80613;
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XX P80613;
XX P80613;
XX P80616;
XX P80616;
XX Bovine
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The published AA sequence of bovine basic FGF was used as a basis for the synthesis of mfd. bFGF gene for expression in E. coli. The nucleotide sequence of this mfd. gene includes codons most often used by E. coli and the inclusion of convenient restriction sites. Oligonucleotides corresp. to both strands of the gene were synthesized in overlapping sections and assembled into 2 larger sections by hybridation and subsequent ligation. The 2 larger sections were then cloned into an approp. phage vector (M13mp18) for nucleotide sequence analysis. The sections were then
                                                                                                                                                                                                                                                                                                   DNA encoding human basic fibroblast growth factor used for expression in an E coli host with purification using non-heparin contg. chromatographic column
                                                                                                                                                                                                                                                                    Example; Fig 2; 21pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (AMGE-) AMGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-JAN-1988;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence of manufactured (bFGF) for expression in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P80613 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This sequence represents a recombinant bovine fibroblast growth factor-2 (FGF-2) sequence. The invention relates to a unit dose composition (I) for inducing angiogenesis in a human, comprising 0.008-7.2 mg of composition (I) and recombinant FGF-2 are useful for treating coronary FGF-2 may be used to treat unstable angina and acute myocardial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 snnyntyrsrkysswyvalkr 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           1988-199640-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity 100
21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fox GM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         87US-0116430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 88EP-0300303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="changed to Ser"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'note="changed to Thr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein; 147 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 115; DB 21; 100.0%; Pred. No. 1.6e-09; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bovine basic fibroblast growth factor E. coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 146;
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RESULT P70671

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101

1 SNNYNTYRSRKYSSWYVALKR 21

21;

Similarity 100. 21; Conservative

100.0%; Score 115; DB 100.0%; Pred. No. 1.6e-

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Mismatches

Indels Length

Gaps

0;

147; 0

snnyntyrsrkysswyvalkr 121

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Query Match
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Matches 21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
                                              Sequence
                                                     Bovine basic fibroblast growth factor (DFGF), which is converted by modified base features to analogues and to human bFGF by site-directed mutagenesis of the DNA encoding it (see N90034).
                                                                                                    Disclosure; fig.2; 67pp;
                                                                                                                             Stable
- used
                                                                                                                                                          N-PSDB;
                                                                                                                                                               WPI; 1989-178359/24
                                                                                                                                                                                        Arakawa
                                                                                                                                                                                                         (AMGE ) AMGEN INC.
                                                                                                                                                                                                                              24-NOV-1987;
                                                                                                                                                                                                                                                22-NOV-1988;
                                                                                                                                                                                                                                                                     01-JUN-1989.
                                                                                                                                                                                                                                                                                       WO8904832-A.
                                                                                                                                                                                                                                                                                                         Bos taurus.
                                                                                                                                                                                                                                                                                                                                                    Bovine basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                   Bovine basic fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                               P90085 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1989
                                                                                                                                                                                                                                                                                                                                                                                                   P90085;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ligated into an expression vector and introduced into E. coli. Bovine and human basic FGF are known to differ by only two AAs. Site directed mutagenesis was used to convert the bovine gene into one coding for the human FGF (see FT). The FGF is a potent mitogen for a wide variety of eclls of mesodermal origin and may be chemotactic for endothelial cells and fibroblasts. The basic FGF induces neovascularisation and may be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
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                                                                                                                basic fibroblast growth factor analogues to treat wounds and generate tissue and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 snnyntyrsrkysswyvalkr 121
                                                                                                                                                         N90034.
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                                                                                                                                                                                                                                                                                                                             tissue
                                               147
                                                                                                                                                                                    Fox GM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147 AA;
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A
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                                                                                                                                                                                                                                                                                                                            generation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                    English
                                                                                                                                                                                                                                                                                                                              growth factor; analogues;
                                                                                                                                                                                                                                                                                                                                                                                                                 147
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                                                                                                                                                                                                                                                                                                                                                     factor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 115; DB 9;
Pred. No. 1.6e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                  tissue and organs.
                                                                                                                                                                                                                                                                                                                               heal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 147;
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Best Local S
Matches 21
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12-SEP-1985;
16-DEC-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The N-terminal AA sequence of both acidic and basic bovine FGF are used to construct long probes to screen human and bovine genomic libraries for FGF genes. Isolated sequences are used in vector construction etc. and used to transform CV-1 cells for FGF prodn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Key
Peptide
Protein
                                                                                                                                                                                                                               W20029
                                                                                                                                                                                                                                                                 W20029 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 11; Fig 3; 89pp; English.
 Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New DNA sequences encoding mammalian fibroblast growth factors useful in prodn. of pure factors for use in wound healing and tissue repair and of probe for tumour testing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO8701728-A
                                         Bos taurus.
                                                                                                                                                 Recombinant bovine basic fibroblast growth factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1987-093786/13.
N-PSDB; N71024.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wound healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence of bovine basic fibroblast growth factor (FGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P70671 standard;
                                                                                                                                                                                          18-SEP-1997
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                                                                                                                                                                                                                                                                                                        15
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                            1 SNNYNTYRSRKYSSWYVALKR 21
                                                                    fibroblast growth factor; basic; acidic; wound odegenerative disease; Parkinson's; Alzheimer's fracture; biologically active; embolism.
                                                                                                                                                                                                                                                                                                                                                           snnyntyrsrkysswyvalkr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  155
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86US-0869382.
85US-0775521.
85US-0809163.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tissue repair; tumour probe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86WO-US01879
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1..9
10..155
 Location/Qualifiers
                                                                                                                                                                                                                                                                 Protein; 155 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                               129
                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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Pred. No. 1.7e-09;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 155;
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                                                                                            healing;
disease;
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Query Match
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Matches 21; Conserv
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30-MAR-1992;
01-APR-1994;
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12-SEP-1985;
16-DEC-1985;
                                                                                                                                                                                                                                                                            W20029 is a recombinant bovine basic fibroblast growth factor (bFGF). Recombinant bFGF is used to promote healing of wounds, bone fractures, damaged myocardial tissue etc. and, since it increases neuronal survival and promotes neurite outgrowth, may also be used in treatment of neurological disorders such as Alzheimer's and Parkinson's diseases. bFGF may also be used for detection of specific inhibitors; for treatment of cell cultures in vitro before transplant and for inducing release of tissue plasminogen activator or collagenase, e.g. for treatment of a chronic tendency to form embolism. Recombinant bFGF can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New high purity, recombinant human basic fibroblast growth factor for promoting wound healing and treating neuro:degenerative diseases, suitable for production on large scale
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12-SEP-1985;
                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                           be produced on a large scale.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 5; Fig 3; 34pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; T71236.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (SCIO-) SCIOS
109 snnyntyrsrkysswyvalkr 129
                        SNNYNTYRSRXYSSWYVALKR
                                                                                                                                                                                                                155 AA;
                                                                                           100.0%; Score 115; DB 18; ilarity 100.0%; Pred. No. 1.7e-09; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INC.
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92US-0860688.
94US-0221462.
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85US-0775521.
85US-0809163.
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//label= sig_peptide
10..155
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                                             21
                                                                                              Indels
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to h score greater than or equal to the score of the result bein and is derived by analysis of the total score distribution.
        Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13:10:
     A_Geneseq_36:*
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Gapop 10.0 ,
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86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /SIDS1/gcgdata/geneseq/geneseqp/AA1989.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1990.DAT:*
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                                                                                                                                                                                                                                                                                                                                                                            Length
  /gcgdata/geneseq/geneseqp/AA1988.DAT:*
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                                                                                   W09091
W03677
R96043
R93977
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R11385
R42607
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Y69417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
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                 Amino acid sequenc
Amino acid sequenc
Human vascular end
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Human VEGF/PF121
Human VEGF/PF121
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Vascular permeabil
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21. Homo
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Variant vascular e	W57399	19	191		77	Ųi
Variant vascular e	w	19	191	•	77	-
Amino acid sequenc	W62525	19	191		77	w
Human VEGF protein	W69331	19	191	•	77	N
Vascular endotheli	W38242	18	191		77	_
	R94002	17	191		77	٠
Vascular endotheli	W00724	17	191		77	w
scular	R91076	16	191	•	77	w
Human vascular end	R08002	11	191	•	77	7
Human vascular end	Y92005	21	189		77	Ο,
growt	Y08281	20	189		77	٠.
aue	Y43484	20	188		77	_
Human VEGF(145) pr	Y07473	20	171		77	~
Human growth facto	Y08280	20	165		77	
Vascular endotheli	W31094	18	165		77	
	W31089	18	165	•	77	
	W31085	18	165		77	_
VEGF-165.	R38921	14	165		77	ω
vascu	R10917	12	165		77	•
id seque	Y43482	20	164		77	٠,
Cys+2.	R94032	17	148	•	77	٠.
Cys+4.	R94031	17	148		77	_
Human vascular end	Y83033	21	147	•	77	~
o acid se	Y69412	21	147	•	77	
VEGF encoded by cl	9040	21	147		77	
x vir	Y33437	20	147	•	77	
่ seqเ	W62524	19	147	•	77	•
21. Homo	R94001	17	147		77	~
vascular	R91075	16	147		77	•
vascu	Y83034	21	145		77	٠,
Amino acid sequenc	6941	21	145		77	٠.
0	827	20	145	89.5	77	_
Vascular endotheli	W56693	19	145	•	77	~

ALIGNMENTS

W49805 standard; peptide; 36 AA

W49805;

24-SEP-1998

(first entry)

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WPI;
                                                                                                     ,Gu J,
Novel receptor-mediated gene transfer systems for targeting tumour gene therapy - by binding to growth factor receptor with their terminal exogenous DNA component, used to treat e.g. malignant tumour cells and tumour vascular endotheliocytes, and in gene
                                                                                                                                                                                                                                                                                                                        Ligand oligopeptide; 4-membered complex; gene transfer system; tumour gene therapy; polycationic polypeptide; cancer; endosome-release oligopeptide; malignant tumour cell;
                                                                                                                                                                31-OCT-1996;
                                                                                                                                                                                            27-OCT-1997;
                                                                                                                                                                                                                            07-MAY-1998
                                                                                                                                                                                                                                                        WO9818951-A1.
                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                                                                                                                                                                               tumour vascular endotheliocytes
                                                                                                                                                                                                                                                                                                                                                                                      Amino acid sequence of ligand oligopeptides
                                                                                                                                  (SHAN-) SHANGHAI CANCER INST
                                                                           1998-272239/24.
                                                                                                     Tian P;
                                                                                                                                                                96CN-0116557.
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В
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Best Local S
Matches 15
The present sequence represents native
                          Disclosure; Fig 12; 46pp; English.
                                    Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors such as vascular endothelial growth factor (VEGF) -
                                                                                                                                                                                            09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                             WPI; 2000-256861/22.
                                                                                                                                                                                                                                                                                                                                     Human; vascular endothelial growth factor; VEGF 110; angiogenic factor; blood vessel injury; vascular injury; microvascular angiogenic factor; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; pneumonia; pulmonary emboli; autoimmune disease; organ transplant; focal glomerulosclerosis; amviorime; organ transplant; focal glomerulosclerosis;
                                                                                                                                       Schreiner GF,
                                                                                                                                                                  (SCIO-) SCIOS
                                                                                                                                                                                                                                             09-SEP-1999;
                                                                                                                                                                                                                                                                                                                           Homo
                                                                                                                                                                                                                                                                        16-MAR-2000
                                                                                                                                                                                                                                                                                               WO200013702-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Amino acid sequence of vascular endothelial growth factor 110.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-JUL-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y69417 standard; Protein; 110 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This is the amino acid sequence of ligand oligopeptide used in the method of the invention to create a 4-membered complex gene transfer system for targeting tumour gene therapy is formed from a 3-membered compound carrier of a ligand oligopeptide/polycationic polypeptide/endosome-release oligopeptide complex, and an exogenous form of malignant tumour ceils and tumour vascular endotheliocytes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   y Match
Local Similarity 100.0%; Pred. No. 6.7e-08;
hes 15; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Page 32; 67pp; Japanese.
                                                                                                                                                                  INC.
                                                                                                                                                                                      98US-0099694.
99US-0126406.
99US-0126615.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36 AA;
                                                                                                                                      Johnson
                                                                                                                                                                                                                                         99WO-US20480.
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                                                                                                                                      핂,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 36;
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human

vascular endothelial growth

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RESULT
Y83038
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CC factor (VEGF) 1.0. VEGF is an anglogenic factor. VEGF proteins are used CC for the prevention or repair of injury to blood vessels or associated CC nonvascular tissues (served by the blood vessels) and for the prevention CC and repair of vascular injury associated with microvascular angiopathy. CC with injury to or atrophy of, the vasculature of the prevention and treatment of kidney diseases associated conterstitium. Conditions which may be treated include haemolytic uremic conference, toxic/shook syndrome, venom exposure, chemical exposure, conference toxic/shook syndrome, venom exposure, chemical exposure, conference considered infarction, ischemic bowel disease, transient ischemic conditions, sepsis, pancreatis, acute renal failure, cattacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung conditions, allergic reactions, hypersensitivity, autoimmune disease, organ transplants, focal glomerulosclerosis, and amyloidosis.
Administering vascular endothelial growth factor (VGEF) can be used for treating hypertension (especially salt-dependent hypertension) Administration of VGEF promotes angiogenesis and/or vascular or
                                                                                                                                                                                             "(SCIO-) SCIOS
                                                                                                                                                                                                                      09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                       Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                            Novel methods for treating hypertension by administering a factor which increases angiogenesis and/or vascular permeability -
                                                                                                                                       WPI; 2000-256862/22.
                                                                                                                                                                    Schreiner GF,
                                                                                                                                                                                                                                                                            09-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                 Vascular endothelial growth factor; human; angiogenesis; VGEF; capillary formation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth; hypoxia; hypercapnia; fibrosis; inflammatory bowel disease; diarrhoea; allografts; cardiac valve.
                                                                                                                                                                                                                                                                                                       16-MAR-2000.
                                                                                                                                                                                                                                                                                                                                WO200013703-A2.
                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human vascular endothelial growth factor (hVEGF110).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-JUL-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Y83038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y83038 standard; Protein; 110 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15;
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                                                                   Figure
                                                                                                                                                                                           INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      110 AA;
                                                                                                                                                                                                                   $8US-0099694.
99US-0126406.
99US-0126615.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11arity 100.0%; Pred. No. 2.
Conservative 0; Mismatches
                                                                                                                                                                 Johnson
                                                                                                                                                                                                                                                                        99WO-US20481
                                                                   11;
                                                               51pp;
                                                                                                                                                                 ₽,
                                                             English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; DB 21; Le.
No. 2.4e-07;
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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CC capillary permeability. The method is also useful in treating CC disorders related to abnormal transport of solutes across endothelial CC cells. Such disorders include the treatment or prevention of kidney CC disease associated with impaired filtration or excretion of solutes; CC the treatment or prevention of diseases of the central nervous system associated with alterations in cerebrospinal fluid, e.g. stroke, CC meningitis, tumour, infections, and bone growth disorders; treatment CC or prevention of hypoxia or hypercapnia or fibrosis arising from CC accumulation of fluid secretions in the lungs, arising from CC surgical intervention, cystic fibrosis; treatment or prevention of CC pulmonary dysfunction arising from injury, pneumonia, infections, CC surgical intervention, cystic fibrosis; treatment or prevention of CC endothelium, including disorders arising from premature birth, and pulmonary hypertension; treatment or prevention of disease arising CC from disordered transport of fluid and solutes across the intestinal CC epithelium, e.g. inflammatory bowel disease, diarrhoae; treatment or crepticacy of solute flux; preservation or enhancement of function of corgan allografts; and treatment or or enhancement of function of corgan allografts; and treatment of cardiac valve disease. This cative human vascular endothelial growth factor hyperilic receptors on target tissues, most notably the vascular endothelium. VGEF exists as five different length monomer chains due to alternative splicing of the VGEF RNA transcript.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 89.5
Best Local Similarity 100.
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                             14-DEC-1989;
27-JUL-1989;
Disclosure; Fig 7(1-2); 94pp; English
                                                                 producing the fa-
in wound healing
                                                                                                DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation
                                                                                                                                                                                                 N-PSDB; Q11099.
                                                                                                                                                                                                                                WPI; 1991-073534/10
                                                                                                                                                                                                                                                                                                    Tischer ER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bovine vascular endothelial cell growth factor; angiogenesis; wound healing; hVEGF; PDGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R11385 standard; Protein; 121 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-FEB-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human vascular endothelial cell growth factor 121
                                                                                                                                                                                                                                                                                                                                                               (CALB-) CALIF BIOTECHN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO9102058-A.
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                                                                                                                                                                                                                                                                                                 Abrhamam,
                                                                                                                                                                                                                                                                                                                                                                                                                                 89US-0450883.
89US-0387545.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90WO-US04227
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                                                                                                                                                                                                                                                                                                 Fiddes JC, Mitchell RL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 77; DB 21;
Pred. No. 2.4e-07;
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PRODUCT PRINCE P

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RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The two forms of VEFG (Q10797 and Q10917) which arise through different message splicing, have different properties. In partic. Or hyberl21 does not bind to heparin leaving more of the protein free to bind to VEGF receptor and increase the half-life and distribution of the protein in circulation, whereas hBEGF165 blands heparin strongly. The product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic ulcers, burns, in surgery, in balloon angioplasty and for the in CC vitro culturing of endothelial cells. Hybrid growth factors of PDF and VEGF can exhibit a mitogenic profile between each factor and CC can be used for wound healing or as inhibitors of angiogenesis for CC vEGF analogues in which CYS residues are substd. are more stable. See also Q10791-93; Q10796-97; Q10806-08 and Q11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                            27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                    /note= "inserted amino acid relative Misc-difference; 115
Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is required
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human VEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R42607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R42607 standard; Protein; 121 AA
                                                                    WPI; 1993-205302/25.
N-PSDB; Q49601.
                                                                                                                                                                                                                                                                                                    US5219739-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                   Abraham JA, Fiddes JC,
                                                                                                                                                (SCIO-) SCIOS
                                                                                                                                                                                                                                       27-JUL-1989;
                                                                                                                                                                                                                                                                      15-JUN-1993.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-OCT-1993 (first entry)
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15; Conserv
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                                                                                                                                                NOVA INC
                                                                                                                                                                           39US-0387545.
39US-0450883.
30US-0559041.
                                                                                                                                                                                                                                    39US-0387545
                                                                                                                                                                                                                                                                                                                             /note= "Lys 115 of hVEGF-121 is replaced by 44
amino acids encoded by an alternatively
spliced exon in hVEGF-165 (see R38921)"
                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89.5%;
100.0%;
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                                                                                                                   Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 77;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 12; 1
. 2.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 121;
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""" Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A vaccine for treatment and prevention of diseases caused by vascularisation comprising a cell growth factor or its fragments which stimulate vascular cell proliferation is provided. The vaccine can be used for treating cancers, glaucoma, eye tumours, reachoma, psoriasis, granuloma, hypertrophic scars, post-crystalline fibrosis and senile disk muscular degeneration. A preferred protein for use in the vaccine is human VEGF/VPF121, i.e. the present sequence.
                                                     Sequence
                                                                                                                                                                                                   Vaccine for treatment of vascularisation diseases, e.g. comprises peptide derived from vascular endothelial cell
                                                                                                                                                                             Example;
                                                                                                                                                                                                                                            WPI; 1996-450932/45.
                                                                                                                                                                                                                                                                                         01-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                                                              WEGF; VPF; vascular endothelial cell growth factor; vascular permeability factor; vaccine; vascularisation; glaucoma; eye timour; trachoma; psoriasis; granuloma; hypertrophic scar; post-crystalline fibrosis; senile disk muscular degeneration.
                                                                                                                                                                                                                                                                                                               30-NOV-1995;
                                                                                                                                                                                                                                                                                                                                     03-SEP-1996.
                                                                                                                                                                                                                                                                                                                                                           JP08225462-A
                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human VEGF/VPF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W09091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        W09091 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42507). The full-length coding sequences be generated using PCR with human foetal vascular smooth muscle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 3;
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                                                                                                                                                                                                                                                              ) TOA GOSEI CHEM IND LTD
                                                                                                                                                                         Page 6-7; 7pp;
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                                                  121 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 AA;
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                                                                                                                                                                                                                                                                                       94JP-0298718
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                                                                                                                                                                                                                                                                                                            95JP-0312562
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for treatment
    89.5%;
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                                                                                                                                                                       Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
   Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
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Pred. No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                              of vascularisation diseases
77;
. No.
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 DB 17;
2.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 14; I
2.7e-07;
thes 0;
          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 121;
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                                                                                                                                                                                                   cancer
1 growth
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RESULT
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                                                                           R96043
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                                             R96043;
                                                              R96043 standard;
                                                                                                                                                                                                                    This is the amino acid sequence of the vascular permeability factor (VPF), a member of the growth factor family. Several VPF types are known having 121, 165, 189 or 206 amino acids. This sequence was used to generate a series of overlapping peptides having 10 residues which w03678-9 generated the greatest antibody signal against the VPF protein. These clones were used to manufacture hybridomas producing monoclonal antibodies which are useful for diagnosis and treatment of cancers and
                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                Disclosure; Page 10; 13pp; Japanese.
                                                                                                                                                                                                                                                                                                                                      New peptide, useful as antigen if factor monoclonal antibody is and as biochemical reagents
                                                                                                                                                                                                                                                                                                                                                                             WPI; 1996-358508/36.
                                                                                                                                                                                                                                                                                                                                                                                              (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                 72
                                                                                                                               . 2 EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                     18-OCT-1994;
10-JUN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-JUN-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JP08169898-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       monoclonal antibody; hybridoma; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular permeability factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W03677 standard; protein;
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                                                                                                                                                     l Similarity
15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            permeability factor; growth factor; overlapping peptide;
                                                                                                                                                                                                   121 AA;
                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                              protein;
                                                                                                                                                                                                                                                                                                                                                                                                                   94JP-0278387.
94JP-0152805.
                                                                                                                                                                                                                                                                                                                                                                                                                                               95JP-0162841
                                                                                                                                                           89.5%;
                                                                                                              86
                                                              121
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                                                                                                                                                   0;
                                                                                                                                                          Score 77;
Pred. No.
                                                             A
                                                                                                                                                                                                                                                                                                                                         for preparing vascular permeability used in treatment agent for cancers
                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A
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                                                                                                                                                        DB 17;
2.7e-07;
                                                                                                                                                 0
                                                                                                                                                                 Length 121;
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                                                                                                                                              Indels
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                                                                                                                                              0;
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                                                                                                                                            Gaps
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Human vascular

permeability factor

20-AUG-1996

(first entry)

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Query Match
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Matches 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This sequence represents the human vascular permeability factor (hVPF). The monoclonal antibody of the invention (MVIOI) reacts with this hVPF sequence. MVIOI does not, however, react with a peptide composed of ten successive residues of this sequence starting from an odd number from the N-terminus of this sequence (e.g. residues 1-10, residues 5-14, residues 47-56 etc.). The antibody can be used for diagnosis and treatment of cancer and other diseases. When it is used as an anti-cancer agent, it is preferably in the form of a chimeric or humanised antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular therapy;
                                                                                                                                                                                                                                       vascular permeability anticancer.
            Partial peptide(s) of VPF121 and monoclonal antibodies - useful anticancer agents
                                                                                                                                  07-JUN-1994;
                                                                                                                                                                                                                                                                                                                                   R93977;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 9; 10pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Monoclonal antibody reacting with human vascular permeability factor useful for treatment and diagnosis of cancer and other diseases
                                                    WPI; 1996-074895/08
                                                                                                        07-JUN-1994;
                                                                                                                                                           19-DEC-1995.
                                                                                                                                                                                     JP07330795-A
                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                              Vascular permeability factor-121.
                                                                                                                                                                                                                                                                                                                                                             R93977 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1996-175730/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-JUN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-JUN-1995;
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                                                                               (TOAG
                                                                                                                                                                                                                                                                                                        12-ЈИГ-1996
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                                                                             ) TOA GOSEI CHEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         permeability factor; VPF; human; monoclonal antibody; diagnosis; cancer; chimera; humanised antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 AA;
                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                        94JP-0125569
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                                                                                                                                                                                                                                                                                                                                                            protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89.5%;
                                                                                                                                                                                                                                                     factor; VPF121; monoclonal antibody;
                                                                             IND LTD
                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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3. 2.7e-07;
0;
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Matches 15; Conser
                                                                                Query Match
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                                                                                                                                                                          The patent discioses a vascularisation-controlling vaccine comprising a cell growth factor which specifically promotes growth of endothelial cells. The vaccine is typically used in immunotherapy to remedy diseases caused by vascularisation, such as solid tumours, and to control the onset and recurrence of such diseases. Typical growth factors include vascular permeability factor (VPGF) and vascular endothelial growth factor (VEGF). The present sequence is that of human VEGF/VPF121.
                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                           Vascularisation controlling vaccine - contains endothelial growth factor, used in the immunotherapy of solid tumours
                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1998-082577/08.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JP09316000-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W40597;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W40597 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The sequence represents VPF121. The patent relates to three new short peptides derived from this sequence (see R93978 - R93980) to monoclonal antibodies raised against them which are useful as
                                                                                                                                                                                                                                                                                                              Disclosure; Page 7; 9pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                              (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                               31-MAY-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-DEC-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunotherapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vascular endothelial growth factor; VEGF; permeability;
immunotherapy; yaccine; cancer; vascularisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VEGF/VPF121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31-MAR-1998
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72 eesnitmqimrikph
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                                                                Similar/ity
                                                                                                                                                 121 'AA;
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                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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                                                                                89.5%;
100.0%;
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                                                                0,
                                                                                Score 77;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A
                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                              DB 19; I
. 2.7e-07;
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2.7e-07;
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                                                                                             Length 121;
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RESULT
Y08278
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Best Local
    Erdmann
                                                                                                                                                    Growth
                                            05-NOV-1997;
                                                                                  06-MAY-1999.
                                                                                                    DE19748734-A1
                                                                                                                        Homo sapiens.
                                                               05-NOV-1997;
                                                                                                                                            Pharmaceutical
                                                                                                                                                                       Human growth
                                                                                                                                                                                                                             Y08278 standard; Protein;
                                                                                                                                                                                           14-JUL-1999
                                                                                                                                                                                                               Y08278;
                                                                                                                                                                                                                                                                                                                                                                                   The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121 present in a sample.
                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New VEGF121-specific monoclonal antibody \cdot useful for measuring levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (FJRE ) FUJIREBIO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-DEC-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JP11178593-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular endothelial growth factor; VEGF; VEGF 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                   72
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y23943 standard;
                                                                                                                                                                                                                                                      12
                                                                                                                                                                                                                                                                                         2 EESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                 eesnitmqimrikph
                                                                                                                                                    factor;
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     H,
                                                                                                                                                                                                                                                                                                                        . Similarity
15; Conserv
                    BIOTECHNOLOGISCHE FORSCHUNG MBH.
    Kaerst U,
                                                                                                                                                                                                                                                                                                                                                                       121 AA;
                                                                                                                                                                    factor protein
                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                               Page 5; 6pp; Japanese.
                                                                                                                                                                                         (first
                                          97DE-1048734
                                                             97DE-1048734.
                                                                                                                                                  human; dimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97JP-0365972.
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                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                   16
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                                                                                                                                                                                                                                                                                                                                89.5%;
   Mueller
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entry)
                                                                                                                                                                                                                               121 AA
                                                                                                                                                                   fragment VEGF-A121.
                                                                                                                                            cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                              Score 77;
Pred. No.
   ņ
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                                                                                                                                                                                                                                                                                                                             DB 20;
2.7e-07;
Weich H;
                                                                                                                                                                                                                                                                                                                                    Length 121;
                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  monoclonal antibody.
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                                                                                                                                                                                                                                                                                                                Gaps
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В Š

This represents a vascular endothelial growth factor-145 (VEGF145) which can be used to stimulate vascular cell proliferation. Polynucleotides encoding VEGF145 are useful for treatment of cardiovascular or vascular disease in mammals, especially humans. They are also useful for enhancing

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W56693
                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 15; Conserv
    Disclosure;
                   Vascular endothelial growth factor-145 splice variant - unanglogenic factor for treatment of cardiovascular disease
                                                         WPI; 1998-193621/17.
N-PSDB; V28396.
                                                                                                            (COLL-)
                                                                                        Keshet~E,
                                                                                                                                            21-JAN-1997;
06-SEP-1996;
                                                                                                                                                                           04-SEP-1997;
                                                                                                                                                                                                 12-MAR-1998.
                                                                                                                                                                                                                     WO9810071-A1.
                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                Vascular endothelial growth factor; VEGF145; angiogenic factor; cell proliferation; cardiovascular disease; drug permeation. tu
                                                                                                                                                                                                                                                                                                                                      Vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                              24-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                   W56693;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                    W56693 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Preparing active growth factor dimers from inclusion bodies in high yield
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1999-278785/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        72 eesnitmqimrikph
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EESNITMQIMRIKPH 16
                                                                                                        COLLATERAL THERAPEUTICS.
TECHNION RES & DEV CO LTD.
                                                                                      Neufeld G,
Fig 3; 73pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                        .97US-0784551.
96US-0025537.
                                                                                                                                                                          97WO-US15471.
                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7; 14pp;
                                                                                                                                                                                                                                           note-
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                                                                                     Poltorak 2,
                                                                                                                                                                                                                                       "encoded by ACG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 77;
Pred. No.
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                                                                                   Vlodavsky
                                                                                                                                                                                                                                                                                                                                    (VEGF145).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 20;
2.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 121;
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                               useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
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drug permeation by tumours. VEGF145 can also be administered to stimulate vascular cell proliferation or to enhance endothelialization of diseased vessels (especially re-endothelialization after angioplasty) in mammals. VEGF145, which binds as weakly as VEGF165 to heparin, binds much better than VEGF165 to the extracellular matrix (ECM). However, unlike VEGF189, VEGF145 is secreted from producer cells and binds efficiently to ECM. This combination of properties render VEGF145 the only known VEGF variant that is secreted from producing cells retaining at the same time ECM binding properties. This makes VEGF145 likely to diffuse towards the target blood vessels, while some of the produced VEGF145 will be retained by ECM components along the path of diffusion. This ECM bound pool will clissociate slowly allowing a longer period of activity. Additionally, the biological activity of VEGF145 is protected against oxidative damage unlike VEGF forms such as VEGF121 thereby giving it a longer half-life.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                  Preparing
yield
This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2955). V08278 v70830l are human growth factor protein fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                               Erdmann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DE19748734-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Growth factor; human; dimer; cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y08279 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                        Claim 14; Page 7; 14pp; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG MBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human growth factor protein fragment VEGF-Al45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                               Ħ,
                                                                                                                                                                                                                                                                                                                              active growth factor dimers from inclusion bodies in high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        145
                                                                                                                                                                                                                                                                                                                                                                                                                                               Kaerst U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Mueller C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 77;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                               Rinas U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 19; 1
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                The present sequence represents native human vascular endothelial growth factor (VEGF) 145. VEGF is an angiogenic factor. VEGF proteins are used for the prevention or repair of injury to blood vessels or associated convascular tissues (served by the blood vessels) and for the prevention and repair of vascular injury associated with microvascular angiopathy, and repair of vascular injury associated with microvascular angiopathy, associated with injury to, or atrophy of, the vasculature of the glomerulus and contensitium. Conditions which may be treated include haemolytic uremic syndrome, toxic shock syndrome, venom exposure, chemical exposure, thrombosis, precelampsia, thrombotic thrombocytopenia purpura, disseminated conformation, ischemic bowel disease, acute renal failure, conformation, ischemic bowel disease, transient ischemic condition, ischemic bowel disease, transient ischemic condition, ischemic bowel disease, transient ischemic condition, ischemic bowel disease, transient ischemic condition injury, acute respiratory distress syndrome, toxic alveolar conditions, appearance of the providers of the provid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 100 Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Fig.5; 46pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors as vascular endothelial growth factor (VEGF) \, -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09-SEP-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombotytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; vascular endothelial growth factor; VEGF 145; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y69413 standard; Protein; 145
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-JUL-2000
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DB; Z99545.
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99US-0126615.
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		Seard Job 1	Qu Be Ma Qy Db	SQ CC CC CC
		Search completed: November Job time: 106 sec	Query Match Best Local Similarity 100 Matches 15; Conservative 2 EESNITMQIMRIKPH 16 72 eesnitmqimrikph 86	wounds, allergic reactions, hypersensitivity, autoimmune transplants, focal glomerulosclerosis, and amyloidosis. Sequence 145 AA;
* ** (0.0)) in ee	9, 2000, :	.5%; SC .0.0%; P e 0;	
		2000, 15:30:41	Pred. No. 3.3e-07; Mismatches 0;	hypersensitivity, autoimmune sclerosis, and amyloidosis.
			; Length 145; 07; 0; Indels	autoimmu yloidosis
			145; ls 0;	
	•. •.		Gaps	diseases, organ
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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq length: 0 seq length: 2000000000
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/2/iaa/6_COMB.pep:*

4: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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86
1 CEESNITMQIMRIK
        November 9, 2000, 15:33:02; Search time 63.67 Seconds (without alignments)
4.212 Million cell updates/sec
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Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CEESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
        BB
    US-08-807-992B-3
PCT-US-60-0001-10
US-08-99-811-7
US-08-824-996-9
US-08-807-992B-4
US-09-042-105-7
US-08-69-063C-20
5194596-9
5194596-17
5219739-18
5332671-3
5319739-22
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US-08-807-992B-2
US-08-691-794-2
5332671-4
5240848-11
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US-08-784-551C-2
US-08-807-992B-1
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5219739-19
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5194596-19
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Sequence 3, Appli
Patent No. 5219739
Sequence 2, Appli
Sequence 3, Appli
Patent No. 5249848
Sequence 3, Appli
Patent No. 5240848
Sequence 10, Appli
Sequence 7, Appli
Sequence 20, Appli
Sequence 3, Appli
Sequence 5, Appli
Sequence 6, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 8, Appli
Sequence 9, Appli
S
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RESULT 1 US-08-591-794-3 Sequence 3, All Sequence 3, All Sequence 3, All Sequence 3, All Patent No. 6019 GENERAL INFOL APPLICANT: CORRESPONDE ADDRESSES STREET: CITY: Se STATE: COMPUTER RE MEDIUM TY COMPUTER RE MEDIUM TY COMPUTER RE MEDIUM TY COMPUTER APPLICANT FILING DA FILING DA FILING DA FILING DA ANTORNEY/AG NAME: DI REGISTRAIL REFERENCE TELEPHONE TELEFAX: TELEFAX: TELEFAX: TELEFAX: TELEFAX: TELEFAX: TELEFAX: TIPE: SITANDEDN TOPOLOGY:		20 20 20 20 20 20 20 20 20 20 20 20 20 2
3, Applic 3, Applic 3, Applic 1, 6057428 INFORWARI ANT: Key ANT: Cun ANT: Cun ANT: Cun INFONDENCE ESSEE: FOUE FOUEER: Onlif TEY: Culif TEY: Culif TEY: Culif TER READAB UM TYPE: Unil E PACION NA WARE: PACION NA UNICATION NA ING DATE: DICATION NA ING DATE		63 62 73 65 57 66 53 61 53 61 43 50 43 50 43 41 47 41 47 41 47 41 47 41 47 41 47 47 47 48 47 48 48 48 48 48 48 48 48 48 48 48 48 48
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1 Cell Processes for ert		Sequence
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Query Match Best Local Similarity 89.58; Score 77; DB 5; Length 121; Qy 2 EESNITMQIMRIKPH 16 0; Mismatches 0; Indels 0; Gaps 0; RESULT 4	OY 2 EESNITMOINRIKPH 16 Db 72	D G.:ABRAHAM, JUDITH A.:FI TION OF VASCULAR ENDOTHELD 17/450,883	ÚS-08-691-794-3 Ouery Match Best Local Similarity 89.5%; Score 77; DB 3; Length 100.0%; Pred. No. 6.2e-08; Oy 2ESNITMOIMRIKPH 16 72 EESNITMOIMRIKPH 16 O; Mismatches 0; Inden.
Db 72 EESNITMOINFIKH 16 0; Mismatches 0; Indels 0; Gaps 0; RESULT 5 US-08-807-9928-1 Sequence 1, Application US/088079928 APPLICANT: Senior, Harold R TITLE OF INVENTION: Expecific binding to spatially exposed regions of vascular STREER. INVENTES: 31 STREER: Dayld Prashker, 23 STREER: Dayld Prashker, 23 STREER: Dayld Prashker, Esq	APPLICATION UNDER PRIOR APPLICATION WIMBER PRIOR APPLICATION SILLING DATE WAS INTO WIMBER APPLICATION AND APPLICATION APPLICATION AND APPLICATION WIMBER APPLICATION WIMBER PRIOR APPLICATION WIMBER ARE STRANGE APPLICATION WIMBER TELEPHONE (202) 463-764-764 APPLICAN (202) 463-764 APPLICAN ARE TELEPHONE (202) 463-764 APPLICAN (202) APPLICAN	O: GENERAL INGOMENTATION US/08784551C APPLICANT: Gera Neufeld APPLICANT: Eli Keshet ITTLE OF INVENTION INGOMENTATION APPLICANT: Eli Keshet ITTLE OF INVENTION INGOMENTATION OF SEQUENCES: 9 ADDRESSE: MANUABER OF SEQUENCES: 9 ADDRESSE: BIADRESS: STREET: 900 17th Street, Comisky & MCCauley LLP COMPUTER: NATH STORM; COMISKY & MCCauley LLP COMPUTER: 2006 I.A. MEDIOM TYPE: 35 % Diskette, 1.44 Mb SOFRMING SYSTEM: IBM F.C. CORREST ADDRESS: IBM F.C. CORREST ADDRESS: IBM F.C. COMPUTER: IBM COMPACTION OF SECURITY: WASHING SYSTEM: IBM F.C. COMPUTER: IBM COMPACTION OF SECURITY INGOMENTATION SYSTEM: IBM F.C. COMPARE: FESTEM: IBM F.C. CORREST ADDRESS: IBM F.C. CORREST ADDRESS ADD	us-09-266-543-9.rai

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RESULT 7
5219739-19
5219739-19
;Patent No. 5219739
;Patent No. 5219739
;Patent No. 5219739
;APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
;JOHN C.;MITCHELL, RICHARD L.
;JOHN C.;MITCHELL, RICHARD L.
;TILE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND
;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5194596-18
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Best Local Similarity
Thes 15; Conserve
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APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-807-992B-1
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APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOI; C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GROWTH FACTOR
                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                  Matches
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NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 14-DEC-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 01930
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 32
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                                                                                                                                                                                         72 EESNITMQIMRIKPH 86
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TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WordPerfect version 5.1
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                                                                                                                                                                                                                                                                                   89.5%;
100.0%;
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Pred. No.
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Pred. No.
                                                                                                                                                                                                                                                               ore 77; DB 5; Le red. No. le-07; Mismatches 0;
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3. 8.9e-08;
0;
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SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/567,200A
FILING DATE: 05-DEC-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-62326-1/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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 Matches
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Best Local :
                     Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:
APPLICATION WIMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
TITLE OF INVENTION: Production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS
                                                                                                   MOLECULE TYPE: 'protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                 LENGTH: 191 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: Four CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
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                                                                                                                     TOPOLOGY:
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                 Local
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                     Similarity
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                                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   California
: United States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PE: Flehr, Hohbach, Test, Albritton & Herbert Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nguyen, Francis H.
Ferrara, Napoleone
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 Conservative
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                 89.5%;
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 Mismatches
                     DB 3;
1.2e-
                 .2e-07
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                                Length 191;
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Gaps
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2 EESNITMQIMRIKPH 16

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RESULT 10
US-08-691-794-2
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                                                                                                                                                                                                                         Sequence 2, Application US/08691794 Patent No. 6057428
                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.08;
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-807-992B-2
                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 29,693
REGISTRATION NUMBER: BIS-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
                                     APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
APPLICANT: Li, Bing
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
NUMBER OF SEQUENCES: 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Senger, Donald R
APPLICANT: Dvorak, Harold R
TITLE OF INVENTION: Immunolog.
TITLE OF INVENTION: permeabil.
TITLE OF INVENTION: vessel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                      APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acids
STRANDEDNESS: single
TOPOLOGY: line.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION MADER: US/08/807,9921
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Deskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF INVENTION: vessel NUMBER OF SEQUENCES: 31 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                     98 EESNITMQIMRIKPH 112
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CITY: Magnolia
STATE: Maconia
                                                                                                                                                                                                                                                                                                                                                2 EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM:
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5: 6022541
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          Flehr, Hohbach, Test, Albritton & Herbert
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100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MS DOS
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                                                                                                                                                                           FILING DATE:
SEQ ID NO:4:
                                                                               Best Local (
                                                                 Matches
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     98
                                                                                                                                                            LENGTH: 191
                            2 EESNITMQIMRIKPH 16
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les 15; Conserva
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TOPOLOGY:
EESNITMQIMRIKPH 112
                                                                           Similarity
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RESULT 11
5332671-4
;Patent No. 5332671
; APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
;GROWTH FACTOR AND DNA ENCODING SAME
; NUMBER OF SEQUENCES: 15
; CURRENT APPLICATION DATA:
; CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     // MOLECULE TYPE: |protein
US-08-691-794-2
                                                                                                                                                                            APPLICATION NUMBER: US/07/38
FILING DATE: 04-AUG-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION UNMER: US/08/691,794
FILING DATE: '02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMER: US 60/002,827
FILING DATE: '25-AUG-1995
PRIOR APPLICATION UNMER: US 08/567,200
APPLICATION NUMBER: US 08/567,200
APPLICATION UNMER: US 08/567,200
APPLICATION UNMER: US 08/567,200
APPLICATION UNMER: US 08/567,200
APPLICATION NUMBER: 24,199
APPLICATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHE
TELECOMMUNICATION*INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEFAX: 416,338-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (415) 398-324
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: 'Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98 EESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 EESNITMQIMRIKPH 16
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CITY: San Francisco
STATE: California
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          Conservative
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                            89.5%;
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0; Mismatches
            0,
                          Score 77;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A-63758/WHD
          Mismatches
                        DB 5; 1
1.2e-07
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. 1.2e-07;
                                        Length 191;
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      Indels
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Gaps
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RESULT 12
5240848-11
;Patent No. 5240848
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US-08-807-992B-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 21-NOV-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 89.5%; Score 77; DB Best Local Similarity 100.0%; Pred. No. 1. Matches 15; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/08807992B Patent No. 6022541
                                                                                                                               CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION UNMER: 29,693
REFERENCE/DOCKET NUMBER: BISTELECOMMUNICATION INFORMATION:
                                                                            TELEPHONE: (978) 525-3794 INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                            COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,9921
FILLING DATE: March 3, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/07/:
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 11
TYPE: amino acid
STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98 EESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Magnolia
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 01930
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 214
                                                          CENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E: David Prashker, Esq. P.O. Box 5387
                                                    215 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
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Dvorak, Harold F
                    single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vessel
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Query Match

89.5%;

Score 77;

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Length 215;

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RESULT 14
5240848-7
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         PRIOR APPLICATION UNIMBER: 08/465,96:
APPLICATION UNIMBER: 08/207,55:
APPLICATION UNIMBER: 08/207,55:
APPLICATION UNIMBER: 08/207,55:
APPLICATION UNIMBER: 08/207,55:
APPLICATION UNIMBER: 36,134
ATTORNEY_AGENY_INFORMATION:
REGISTRATION WUMBER: 36,134
REFERENCE/DOCKET UMBER: 3258
TELECOMMUNICATION INFORMATION:
TELEPRONE: 201-994-1740
INFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;Patent No. 5240848
APPLICANT: KECK, PAMELA J.;CONNOLLY, DANIEL T.;FEDER,JOSEPH; TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR; PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO:7:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 10, Application PC/TUS9609001 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100.0%; Pred. No. 1.4e-07; Matches 15; Conservative 0; Mismatches 0;
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/33
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: 3.5 INCH DISKETTE
                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 10 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM: MS-DOS
SOFTWARE: WORD PERFECT 5.1
                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 6 BECKER CITY: ROSELAND STATE: NEW JERSEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98 EESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                CLASSIFICATION:
                                                                                                                                                                                                                                                                 FILING DATE
                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                      COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: US
ZIP: 07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: CARELLA, BYRNE, BAIN, GILFILLAN ADDRESSEE: CECCHI, STEWART & OLSTEIN STREET: 6 BECKER FARM ROAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 21-NOV-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 EESNITMQIMRIKPH 16
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                                                                                                                                                                                                                                                                                                                                                                                                                           USA:
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                                                                                                                                                                                                                                                                                                                                                      IBM PS/2
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                                                                                                                                                                                                                                                                                PCT/US96/09001
                                                                                                                                                                          08/207,550
                                                                                                                                                                                                          08/465,968
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                                                                                     325800-288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
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LENGTH: 231 AMINO ACIDS
TYPE: AMINO ACID
STRANDEDNESS:
TOPOLOGY: LINEAR
MOLECULE TYPE: PROTEIN
PCT-US96-09001-10
                                                                                                            Qy
Search completed: November 9, 2000, 15:33:02 Job time: 243 sec
                                                                                  Ъ
                                                                                                                                        Query Match 89:5%; Score 77; DB 4; Length 231; Best Local Similarity 100.0%; Pred. No. 1.5e-07; Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps
                                                                            0;
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Minimum DB seq length: 0
Maximum DB seq length: 200000000
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Maximum Match 100%
Listing first 45 summaries
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                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A_Geneseq_36:*
1: /SIDSI/gcgda:
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71
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CNDEGLESVPTEE 13
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Copyright (c) 1993 - 2000 Compugen Ltd.
SUMMARIES
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0 Y23943	7 R93977	7 R96043	7 W03677	-	4 R42607	2 R11385	1 Y83038	1 Y69417	4 R42609	7 R94035	Ħ
Amino acid sequenc	Vascular permeabil	Human vascular per	Vascular permeabil	Human VEGF/VPF121	Human VEGF-121. H	Human vascular end	Human vascular end	Amino acid sequenc	Encoded by human V	VEGF exon III. Ho	Description

	R94002	17	191	ω.	66	45
lar endot	W00724	17	191	·	66	44
vascular	R91076	16	191	ω.	66	43
Human vascular end	R08002	11	191	ω	66	42
Parapox virus VEGF	Y33440	20	190	ü	66	41
	Y92005	21	189	·	66	40
Human growth facto	Y08281	20	189	93.0	66	ω 9
Amino acid sequenc	Y43484	20	188	ω ·	66	38
VEGF (145)	Y07473	20	171	ú	66	37
	W86204	20	170	ω	66	36
Human growth facto	Y08280	20	165	ω	66	35
	W31093	18	165	w	66	34
Vascular endotheli	W31092	18	165	ω	66 .	ω
	W31088	18	165	ω	66	32
Vascular endotheli	W31086	18	165	ω	66	ω H
	R38921	14	165	ω	66	30
vascu	R10917	12	165	ω	66	29
Amino acid sequenc	Y43482	20	164	ω	66	28
VEGF121 Cys+2. Ho	R94032	17	148	ω	66	27
VEGF121 Cys+4. Ho	R94031	17	148	ω	66	26
Vasci	Y83033	21	147	ω	66	25
Amino acid sequenc	Y69412	21	147	ω.	66	24
VEGF encoded by cl	Y90402	21	147	ω	66	23
tei	Y07724	20	147	ω	66	22
Parapox virus VEGF	Y33437	20	147	ω	66	21
) acid sequ	W62524	19	147	ω	66	20
21. Homo	R94001	17	147	'n	66	19
vascular	R91075	16	147	ω	66	18
vascu	Y83034	21		ω	66	17
acid se	6941	21		ω	66	16
Human growth facto	827	20		ω ·	66	15
lar endothe	W56693	19	145	ω.	66	14
Human growth facto	Y08278	20		ω	66	13

ALIGNMENTS

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OR WPI; 1996-160151/16.	XX ATCCOL VD			A (PRIZ-) PRIZM PHARM INC.		PR 16-MAY-1995;		PF 29-AUG-1995;		PD 07-MAR-1996.		PN W09606641-A1.		OS Homo sapiens									DE VEGF exon III.		OT 10-OCT-1996	2	AC R94035;		R94035	RESULT 1
16015 7743.		GA,		IZM E	4.	5						A1.		ns.		eins;	a; vi	disc	ical	ion i	ndoth		III.						ndard	
51/16.		Freund E, Houston LL, Nova MP, Sosnowski BA;		PHARM INC.	94US-0297961.	95US-0441979.		95WO-US10973.								varicose veins; gene therapy.	conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;	ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis;	dermatological disorder; VEGF receptor; vascular proliferation; retina;	<pre>proliferation inhibition; VEGF-mediated pathophysiological condition;</pre>	helial growth factor; VEGF; human; conjugate; tumour; iris				(first entry)				standard; Protein; 65 AA.	

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CC growth factors (VEGF) exons. This sequence represent vascular endothelial CC sequences were used in VEGF conjugates of the invention. In the CC conjugates, VEGF (or fragments of it) are linked to a targeted agent VEGF receptor. Cys-modified forms of VEGF are particularly suitable for CC chemical conjugation to linkers and targeted agents. The conjugates are cc used for inhibiting proliferation of cells bearing VEGF receptors. They circluding dermatological disorders with underlying vascular cc including dermatological disorders with underlying vascular cc proliferation, solid tumours or an ophthalmic disorder of themselved humour. The conjugates can be used for treating blood vessels of the retina, iris, conjunctiva or rheumatoid arthritis, skin cancers and other tumours, or varicose veins.
            Isolated DNA sequences, expression vectors and transformant cells used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                                                Abraham JA,
                                                                                                                                        (SCIO-) SCIOS
                                                                                                                                                                                                                27-JUL-1989;
                                                                                                                                                                                                                                         15-JUN-1993
                                                                                                                                                                                                                                                                 US5219739-A
                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                             Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121;
                                                                                                                                                                                                                                                                                                                                                                                                                                     R42609 standard;
                                                                                                                                                                                                                                                                                                                                                                                        28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                   R42609;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 119; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vascular endothelial cell growth factor (VEGF) conjugates - having VEGF linked to targeted agent, used for inhibiting proliferation of cells, e.g. for gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CNDEGLESVPTEE 13
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47 cndeglecvptee 59
                                                                            1993-205302/25.
DB; Q49605.
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12; Conserv
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                                                                                                                                     NOVA INC.
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89US-0450883.
90US-0559041.
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                                                                                                                                                                                                                                                                                                  splicing.
                                                                                                                                                                                                                                                                                                                                                         VEGF-165 exon III.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein;
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92.3%;
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                                                                                                     Tischer
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J.00012;
J.1;
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Best Local S
Matches 12
The present sequence represents native human vascular endothelial g factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are for the prevention or repair of injury to blood vessels or associate nonvascular tissues (served by the blood vessels) and for the preve and repair of vascular injury associated with microvascular angiopa
                                                                                               Disclosure; Fig 12; 46pp; English.
                                                                                                                    Novel methods and compositions for the prevention and treatment microvascular angiopathies by administration of angiogenic facto as vascular endothelial growth factor (VEGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; vascular endothelial growth factor; VEGF 110; angiogenic factor; blood vessel injury; vascular injury; microvascular angiogenth; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; intravascular coagulation; thrombosis; precciampsia; sepsis; pancreatis; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; birth prematurity discress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                                                                                                                                                                                                                                                                                     09-SEP-1998;
26-MAR-1999;
                                                                                                                                                                                                                                                             (SCIO-) SCIOS
                                                                                                                                                                                                                                                                                                                                                   09-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y69417 standard; Protein; 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequences of the 8 possible exons encoding human vascular endothelial cell growth factor, together with contiguous splice junctions, were obtained from overlapping genomic inserts. A method for producing VEGF is claimed comprising culturing mammalian cells transformed with an expression vector containing exons I-V and VIII. See Q44261 for exon I and Q49604-Q49610 for exons II-VIII.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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                                                                                                                                                                                               2000-256861/22.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sequence of vascular endothelial growth factor 110.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66 AA;
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99US-0126406.
99US-0126615.
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92.3%;
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Pred. No. 0.00012;
^. Mismatches 1;
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             particularly thrombotic microangiopathy. The proteins methods may also be used for the prevention and treatment of kidney diseases associated with injury to, or atrophy of, the vasculature of the glomerulus and interstitium. Conditions which may be treated include haemolytic uremic syndrome, toxic shock syndrome, venom exposure, chemical exposure, preeclampsia, thrombotic thrombotytopenia purpura, disseminated intravascular coagulation, sepsis, pancreatis, acute renal failure, myocardial infarction, ischemic bowel disease, transient ischemic attacks, stroke, hypoxia or hypercapal or fibrosis arising from lung endothelium injury, acute respiratory distress syndrome, toxic alveolar injury, pneumonia, pulmonary emboli, birth prematurity disorders, wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ transiants focal almorations or supercapia and amyloidesis.
Administering vascular endothelial growth factor (VGEF) can be used for treating hypertension (especially salt-dependent hypertension) Administration of VGEF promotes angiogenesis and/or vascular or capillary permeability. The method is also useful in treating disorders related to abnormal transport of solutes across endothelial cells. Such disorders include the treatment or prevention of kidney disease associated with impaired filtration or excretion of solutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial growth factor; human; angiogenesis; VGEF; capillary formation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth; hypoxia; hypercapnia; fibrosis; inflammatory bowel disease;
                                                                                                                                                                        Novel methods for treating hypertension by administering a factor which increases angiogenesis and/or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypoxía; hypercapnia; f
diarrhoea; allografts;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-JUL-2000
                                                                                                                                           Disclosure;
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                                                                                                                                                                                                                                                           Schreiner GF,
                                                                                                                                                                                                                                                                                              (SCIO-) SCIOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human vascular endothelial growth factor (hVEGF110).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Y83038 standard; Protein; 110
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99US-0126406.
99US-0126615.
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                                                                                                                                      51pp; English.
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0.00021;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the treatment or prevention of diseases of the central nervous system cc associated with alterations in cerebrospinal fluid, e.g. stroke, cmeningitis, tumour, infections, and bone growth disorders; treatment or prevention of hypoxia or hypercaphia or fibrosis arising from cc accumulation of fluid secretions in the lungs, e.g. acute respiratory conditress syndrome, toxic alveolar injury, pneumonia, infections, cc surgical intervention, cystic fibrosis; treatment or prevention of cc pulmonary dysfunction arising from injury to the pulmonary endothelium, including disorders arising from premature birth, and cc pulmonary hypertension; treatment or prevention of disease arising cf from disordered transport of fluid and solutes across the intestinal cc prevention of ascites accumulation in the peritoneum; enhancement of cc efficacy of solute flux; preservation or enhancement of function of corgan allografts; and treatment of cardiac valve disease. This cc sequence is the native human vascular endothelial growth cf factor hyperion. The activity of VGEF is mediated by interaction crendothelium. VGEF exists as five different length monomer chains due to alternative splicing of the VGEF RNA transcript.
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Best Local S
Matches 12
                                                                                                                                                                                                       DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14-DEC-1989;
27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bovine vascular endothelial cell growth factor; angiogenesis; wound healing; hVEGF; PDGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R11385 standard; Protein; 121 AA
                                                                                                                Disclosure; Fig 7(1-2); 94pp;
                                                                                                                                                                                                                                                                                                                                                                                 Tischer ER, Abrhamam,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-FEB-1991.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9102058-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                          (CALB-) CALIF BIOTECHN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                            wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CNDEGLESVPTEE 13
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                                                                                                                                                                                                                                                                                                                       1991-073534/10
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                                                                                                                                                                                                                                                                                            Q11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       110 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          endothelial cell growth factor 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89US-0450883
89US-0387545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90WO-US04227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93.0%;
                                                                                                                                                                                                                                                                                                                                                                                 Fiddes JC,
                                                                                                                                                                                                    angiogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
Pred.
                                                                                                                   English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No ;
                                                                                                                                                                                                                                                                                                                                                                                 Mitchell RL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 110;
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0

The two forms of VEFG (Q10797 and Q10917) which arise through different message splicing, have different properties. In pa hVEGF121 does not bind to heparin leaving more of the protein

properties. In par more of the protein

partic

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RESCUT
R4 2607
ID RA 2607
AC XX
AC X
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                           27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                                              Isolated DNA sequences, expression vectors and transformant cells used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                    Claim 3; Fig 7; 40pp; English.
                                                                                                                                                                                                                                          N-PSDB;
                                                                                                                                                                                                                                                                                                            Abraham JA,
                                                                                                                                                                                                                                                                                                                                                           (SCIO-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-JUN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US5219739-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Angiogenesis; wound healing; mitogen; vascular endothelial cells;
Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R42607 standard; Protein; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bind to VEGF receptor and increase the half-life and distribution of the protein in circulation, whereas habsgri65 binds heparin strongly. The product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic vitro culturing of endothelial cells. Hybrid growth factors of PDGF and VEGF can exhibit a mitogenic profile between each factor and e.g. preventing the growth of tumours.

**WEGF analogues in which CYS residues are substd. are more stable.**

**VEGF analogues in which CYS residues are substd. are more stable.**
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-0CT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R42607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CNDEGLESVPTEE 13
|||||| || ||||
61 cndeglecvptee 73
                                                                                                                                                                                                                                                          1993-205302/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VEGF-121
                                                                                                                                                                                                                                     Q49601.
                                                                                                                                                                                                                                                                                                                                                           SCIOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l Similarity
12; Conserv
                                                                                                                                                                                                                                                                                                         Fiddes JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                           NOVA INC.
                                                                                                                                                                                                                                                                                                                                                                                                      89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          89US-0387545.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note=
115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Lys 115 of hVEGF-121 is replaced by 44 amino acids encoded by an alternatively spliced exon in hVEGF-165 (see R38921)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "inserted amino
                                                                                                                                                                                                                                                                                                    Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 66; DB 12;
Pred. No. 0.00024;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                 Tischer EG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               relative to bVEGF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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The sequence of Q44260 contains

an open

reading

frame corresponding

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CNDEGLESVPTEE

13

Matches

12;

Conservative

0;

.00024;

Indels

0,

Gaps

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Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
W09091
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 88888888
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                   A vaccine for treatment and prevention of diseases caused by vascularisation comprising a cell growth factor or its fragme which stimulate vascular cell proliferation is provided. The vaccine can be used for treating cancers, glaucoma, eye tumon trachoma, psoriasis, granuloma, hypertrophic scars, post-crystalline fibrosis and senile disk muscular degeneration and preferred protein for use in the vaccine is human VEGF/VPF:
                                                                   Sequence
                                                                                                                                                                                                                                       Vaccine for treatment of vascularisation diseases, e.g. (comprises peptice derived from vascular endothelial cell
                                                                                                                                                                                                       Example; Page 6-7; 7pp;
                                                                                                                                                                                                                                                                                   WPI; 1996-450932/45
                                                                                                                                                                                                                                                                                                                                    01-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                              30-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                        03-SEP-1996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vascular permeability factor; vaccine; vascularisatio glaucoma; eye tumour; trachoma; psoriasis; granuloma; hypertrophic scar; post-crystalline fibrosis;
                                                                                                                                                                                                                                                                                                                                                                                                               JP08225462-A.
                                                                                                                                                                                                                                                                                                         (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                            senile disk muscular degeneration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VEGF; VPF; vascular endothelial cell growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W09091 standard; protein; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences be generated using PCR with human foetal vascular smooth muscle poly-A+ RNA as template.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W09091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CNDEGLESVPTEE 13
||||||| ||| |||
61 cndeglecvptee 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEGE/VPF1:1
                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                  121
                                    ž.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                  AA;
                                                                                                                                                                                                                                                                                                                                  94JP-0298718
                                                                                                                                                                                                                                                                                                                                                           95JP-0312562.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ã,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 for treatment of vascularisation diseases
                93.0%;
92.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93.0%;
92.3%;
                                                                                                                                                                                                       Japanese.
Score 66; DB
Pred. No. 0.00
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 66;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vascularisation;
                          DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 14;
0.00024;
                        Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 121;
                                                                                                  degeneration
n VEGF/VPF121,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                             fragments
                                                                                                                                     tumours,
                                                                                                                                                                                                                                                     cancer
                                                                                                                                                                                                                                       growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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61 cndeglecvptee

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Query Match
Best Local Similarity
"herhes 12; Conserva
RESULT
R96043
                                                                                                                                                                                                                                                                                                         RESULT
W03677
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                      Vascular therapy;
                                                                                                                                                                                                                                                                                                                                         (VPF), a member of the growth factor family. Several VPF types are known having 121, 165, 189 or 206 amino acids. This sequence was used to generate a series of overlapping peptides having 10 residues which were used to raise antibodies against the VPF peptide. The two peptides W03678-9 generated the greatest antibody signal against the VPF protein. These clones were used to manufacture hybridomas producing monoclonal antibodies which are useful for diagnosis and treatment of cancers and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New peptide, useful as antigen factor monoclonal antibody - is and as biochemical reagents
                                                                                                                             R96043 standard; protein;
Homo sapiens
                                                             Human
                                                                                   20-AUG-1996
                                                                                                          R96043;
                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                other diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                               This is
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 10; 13pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1996-358508/36.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-OCT-1994;
10-JUN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vascular permeability factor; growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W03677 standard; protein; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TOAG ) TOA GOSEI CHEM IND LID
                                                                                                                                                                                             61 cndeglecvptee 73
                                                                                                                                                                                                                     1 CNDEGLESVPTEE 13
                                                                                                                                                           9
                                                          vascular permeability factor
                                                                                                                                                                                                                                                                                                                                                                                                                              the amino acid sequence of the vascular permeability factor
                      permeability factor; VPF; human; monoclonal antibody; diagnosis;
cancer; chimera; humanised antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antibody; hybridoma; cancer.
                                                                                                                                                                                                                                                                                                         121 AA;
                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94JP-0278387
94JP-0152805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95JP-0162841
                                                                                                                                                                                                                                                      93.0%;
                                                                                                                                   121 AA
                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                        Score 66; 1
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for preparing vascular permeability sused in treatment agent for cancer:
                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                        DB 17; Length 121, 00024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           overlapping peptide;
                                                                                                                                                                                                                                             Indels
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RESULT
R93977
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence represents the human vascular permeability factor (hVPF). The monoclonal antibody of the invention (WVI01) reacts with this hVPF sequence. WVI01 does not, however, react with a peptide composed of ten successive residues of this sequence starting from an odd number from the N-terminus of this sequence (e.g. residues 1-10, residues 5-14, residues 47-56 etc.). The antibody can be used for diagnosis and treatment of cancer and other diseases. When it is used as an anti-cancer agent, it is preferably in the form of a chimeric or humanised antibody.
The sequence represents VPF121. The patent relates to short peptides derived from this sequence (see R93978
                                                                Partial peptide(s) of VPF121 and anticancer agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Monoclonal antibody reacting with human vascular permeability factor - useful for treatment and diagnosis of cancer and other diseases
                                                                                                                                                             07-JUN-1994;
                                                                                                                                                                                        07-JUN-1994;
                                                                                                                                                                                                                   19-DEC-1995.
                                                                                                                                                                                                                                                                                                  anticancer.
                                                                                                                                                                                                                                                                                                              vascular permeability factor; VPF121; monoclonal antibody;
                                                                                                                                                                                                                                                                                                                                     Vascular permeability factor-121
                                                                                                                                                                                                                                                                                                                                                                 12-JUL-1996 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                       R93977 standard; protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 9; 10pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JP08053498-A.
                                       Disclosure; Page 7;
                                                                                                         WPI; 1996-074895/08
                                                                                                                                                                                                                                              JP07330795-A.
                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                               R93977;
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                                                                                                                                    (TOAG ) TOA GOSEI CHEM
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                                                                                                                                                            94JP-0125569
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                                       9pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93.0%;
                                                                                                                                    IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 66; DB Pred. No. 0.00 0; Mismatches
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                                                                                 monoclonal antibodies
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three new - R93980)
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Best Local
                                            Y23943;
                                                                                                                                                                                                                                                                                                                                                                                                                  The patent discloses a vascularisation-controlling vaccine comprising a cell growth factor which specifically promotes growth of endothelial cells. The vaccine is typically used in immunotherapy to remedy diseases caused by vascularisation, such as solld tumours, and to control the onset and recurrence of such diseases. Typical growth factors include vascular permeability factor (VPF) and vascular endothelial growth factor (VEGF). The present sequence is that of human VEGF/VPF121.
                                                                          Y23943 standard; peptide; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 7; 9pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vascularisation-controlling vaccine - contains endothelial cell growth factor, used in the immunotherapy of solid tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-MAY-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vascular endothelial growth factor; VEGF; permeability; immunotherapy; vaccine; cancer; vascularisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                W40597;
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                                                                                                                                                                                       61 cndeglecvptee 73
                                                                                                                                                                                                                                                                         Local Similarity 92.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to monoclonal antibodies raised against them which are useful as anticancer agents.
                                                                                                                                                                                                                             1 CNDEGLESVPTEE 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 cndeglecvptee 73
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12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                         121 AA;
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92.3%;
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Pred. No. 0.00024;
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                                                                                                                                                                                                                                                                                                                   DB 19;
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RESULT 13
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                              WPI; 1999-278785/24.
                                                      Erdmann
                                                                                                      05-NOV-1997;
                                                                         (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG MBH
                                                                                                                                                       06-MAY-1999.
                                                                                                                              05-NOV-1997;
                                                                                                                                                                                                                                             Growth factor;
                                                                                                                                                                                                                                                               Human growth factor protein fragment VEGF-A121
                                                                                                                                                                                DE19748734-A1.
                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                pharmaceutical
                                                                                                                                                                                                                                                                                              14-JUL-1999
                                                                                                                                                                                                                                                                                                                       Y08278;
                                                                                                                                                                                                                                                                                                                                           Y08278 standard; Protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121 present in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 5; 6pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New VEGF121-specific monoclonal antibody - useful for measuring levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1999-437318/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (FJRE ) FUJIREBIO KK.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular endothelial growth factor; VEGF; VEGF 121; monoclonal antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-SEP-1999
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                                                                                                                                                                                                                                     human; dimer; cysteine knot; cellular inclusion body;
                                                                                                                          97DE-1048734
                                                                                                     97DE-1048734.
growth factor dimers from inclusion bodies in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97JP-0365972
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                                                    Mueller C,
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This represents a vascular endothelial growth factor-145 (VEGF145) which can be used to stimulate vascular cell proliferation. Polynucleotides encoding VEGF145 are useful for treatment of cardiovascular or vascular disease in mammals, especially humans. They are also useful for enhancing drug permeation by tumours. VEGF145 can also be administered to stimulate vascular cell proliferation or to enhance endothelialization of diseased vessels (especially re-endothelialization after angioplasty) in mammals. VEGF145, which binds as weakly as VEGF165 to heparin, binds much better
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor
                                                                                                                                                        Vascular endothelial growth factor-145 splice variant - useful as an angiogenic factor for treatment of cardiovascular disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                   21-JAN-1997;
06-SEP-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vascular
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                                                                                                                               Disclosure; Fig 3; 73pp; English.
                                                                                                                                                                                                                                               Keshet E, Neufeld G,
                                                                                                                                                                                                                                                                                                                                                              04-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                        12-MAR-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               endothelial growth factor; VEGF145; angiogenic factor; liferation; cardiovascular disease; drug permeation. tumour
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                                                                                                                                                                                                                                                                                                                   97US-0784551.
96US-0025537.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             factor-145 (VEGF145).
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93.0%; 92.3%;

Score 66; DB 20; Pred. No. 0.00029;

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Best Local
                                    This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from collular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 23 (1989) 2956). Y08278-Y08301 are human growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                than VEGF165 to the extracellular matrix (ECM). However, unlike VEGF189, VEGF145 is secreted from producer cells and binds efficiently to ECM. This combination of properties render VEGF145 the only known VEGF variant that is secreted from producing cells retaining at the same time ECM binding properties. This makes VEGF145 likely to diffuse towards the target blood vessels, while some of the produced VEGF145 will be retained by ECM components along the path of diffusions ECM bound pool will dissociate slowly allowing a longer period of activity. Additionally, the biological activity of VEGF145 is protected against oxidative damage unlike VEGF forms such as VEGF121 thereby giving it a longer half-life.
Sequence
                                                                                                                                                                      Preparing active growth factor dimers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human growth factor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Y08279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                            protein
                                                                                                                                          Claim 14; Page 7; 14pp; German
                                                                                                                                                                                                                                            Erdmann
                                                                                                                                                                                                                                                                                                  05-NOV-1997;
                                                                                                                                                                                                                                                                                                                             05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                          06-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                     DE19748734-A1
                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                             pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y08279 standard;
                                                                                                                                                                                                                                                                     (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 cndeglecvptee
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                                                                                                                                                                                                                1999-278785/24
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                            fragments used in the method of the invention.
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 145
                                                                                                                                                                                                                                          Kaerst U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      145 AA;
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Ä
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          human;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          dimer; cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                          Mueller C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 66; DB Pred. No. 0.00 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fragment VEGF-A145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                          Rinas U,
                                                                                                                                                                                     from inclusion bodies in high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 19;
0.00029;
                                                                                                                                                                                                                                            Weich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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Search completed: November 9, 2000, 15:30:40 Job time: 105 sec

В

||||||| ||||| 61 cndeglecvptee 73

Sequence 20, Appli Sequence 44, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 3, Appli Sequence 9, Appli Sequence 9, Appli Sequence 11, Appli Sequence 7, Appli Sequence 7, Appli

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Result
No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB seq length: 0
DB seq length: 2000000000
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                            protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Issued_Patents_AA:*

1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                              BLOSUM62
Gapop 10.0 , Gapext 0.5
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71
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Copyright (c) 1993 - 2000 Comp
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US-08-807-992B-3

5219739-22

5240848-7

PCT US96-09001-10

US-08-99-811-7

US-08-824-996-9

US-08-807-992B-4

US-09-042-105-7

US-09-042-105-7

US-08-742-243-45

5194596-17

5219739-18

5332671-3

5332671-3
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5219739-19
US-08-567-200A-2
US-08-607-992B-2
US-08-691-794-2
5332671-4
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US-08-784-551C-2
US-08-807-992B-1
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5194596-19
                          US-08-469-427A-15
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3.422 Million cell updates/sec
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                     Sequence 2, Appli
Sequence 1, Appli
Patent No. 519739
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 3, Appli
Sequence 3, Appli
Patent No. 5219739
Patent No. 5219739
Patent No. 5240848
Sequence 10, Appli
Sequence 7, Appli
Sequence 9, Appli
Sequence 9, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 45, Appli
Sequence 519739
Patent No. 5119739
Patent No. 5219739
Patent No. 5219739
Patent No. 5323671
Sequence 15, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 3, Appli
Patent No. 5194596
Patent No. 5219739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
MEDIUM TYPE: FLOPPY GLEAN
COMPUTER: IBM PC COMPUTED:
OPERATING SYSIEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION OF AND APPLICATION OF APPLICATION 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-691-794-3
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Patent No. 60574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Nguyen, Francis H.
APPLICANT: Cunningham, Brian C.
APPLICANT: Cunningham, Brian C.
APPLICANT: Li, Bing
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Production
TITLE OF INVENTION: Production
NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: Four Embarcadero Contry: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/08691794
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-569-063C-20
US-08-742-243-46
US-08-742-243-46
US-08-469-427A-2
US-08-669-063C-2
US-08-669-063C-2
US-08-669-427A-11
US-08-669-427A-11
US-08-699-443B-11
US-08-699-443B-11
US-08-699-443B-7
US-08-699-443B-7
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Suite 3400
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WOLECULE TYPE: protein US-08-691-794-3

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RESULT 3
5219739-20
; Patent No. 5219739
; Patent N
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5194596-19
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APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN;C.:MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
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                                                                                                                                                         Query Match
Best Local 9
                                                                                                                               Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 93.0
Best Local Similarity 92.7
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local (
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      61
                                                                                                                           Local Similarity es 12; Conserv
                                                            1 CNDEGLESVPTEE 13
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Local Similarity 92.3%;
nes 12; Conservative
CNDEGLECVPTEE 73
                                                                                                                           Conservative
                                                                                                                                                      93.0%;
                                                                                                              Score 66; DB 5;
Pred. No. 0.00012;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 66; DB 5; Le
Pred. No. 0.00012;
0; Mismatches 1;
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Pred. No. 0.0011;
0; Mismatches 1; Indels
                                                                                                                                                                          Length 121;
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                                                                                                              Indels
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RESULT. 4

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RESULT 5
US-08-807-992B-1
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                                                                                                                                                                                                          Sequence 1, Application US/08807992B
Patent No. 6022541
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                                                                                                                                                                                                                                                                                                                                                                                           Query Match 93.0%;
Best Local Similarity 92.3%;
Matches 12; Conservative
                                 APPLICANT: Sencer, Donald R
APPLICANT: Deporak, Harold F
TITLE OF INVENTION: Immunolog
TITLE OF INVENTION: Specific
TITLE OF INVENTION: permeabil
TITLE OF INVENTION: vessel
NUMBER OF SEQUENCES: 31
CORRESPONDENCE LIDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Patent No.
                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEX:
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Cohen, Herbert
REGISTRATION UNMER: 25,109
REFERENCE/DOCKET NUMBER: 0274
TELEPHONE: (202) 463-7700
TELEPHAN: (202) 463-6915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US
FILING DATE: January 2
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FASTSED for Windows 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: Storage
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 145 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
ADDRESSEE: De
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Blank, Rome, Comisky & McCauley LLP
STREET: 900 17th Street, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 900 17th Street
STREET: Suite 1000
CITY: Washington, D.C.
STATE: N/A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Gera Neufeld
APPLICANT: Eli Keshet
APPLICANT: Israel Vlodavs
APPLICANT: Zoya Poltorak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF
TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE
NUMBER OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                        61 CNDEGLECVPTEE 73
                                                                                                                                                                                                                                                                                                                                              1 CNDEGLESVPTEE 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION:
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Eli Keshet
Israel Vlodavsky
 David Prashker, Esq.
O. Box 5387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            UMBER: US/08/784,551C
January 21, 1997
                                                                          Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blo vessel
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                                                                                                                                                                                                                                                                                                                                                                                                             Score 66; DB 3;
Pred. No. 0.00015;
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Magnolia

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RESULT 6
5194596-18
; PARTEN IN. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; C. TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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5194596-18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 12; Conserv
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Best Local Similarity
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OPERATING SYSTEM: MS DOS
OPERATING SYSTEM: MS DOS
SOFTWARE: WORDERET COT VOICE
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: MARCH 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: DAVID PRASHKET, ESG.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 14-DEC-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87 CNDEGLECVPTEE 99
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                                                                                                                                                                                                                                                                                                                                                                                CNDEGLECVPTEE 73
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/07/450,883
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 66; DB 5;
Pred. No. 0.00017
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
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                                                                                                             ; MOLECULE TYPE: 'protein US-08-567-200A-2
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                                                          Query Match *
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                                  Best Local Similarity
Matches 12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                         TELEFAX: (415) 398-32
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                    NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1999
APPLICATION NUMBER: 387,545
                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Keyt, Bruce A. APPLICANT: Nguyen, Francis H. APPLICANT: Ferrara, Napoleone
                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/O FILING DATE: 05-DEC-1995 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/
FILING DATE: 27-JUL-1990
                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: United States ZIP: 94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 CNDEGLECVPIEE 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
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1 CNDEGLESVPTEE 13
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602
                                                                                                                                                             amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              E: Flehr, Hohbach, Test, Albritton & Herbert Four Embarcadero Center, Suite 3400
                                    Conservative
                                                                                                                                                                                                                                          (415) 398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                linear
                                                                                                                                                                                                                                                          (415) 781-1989
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                                                    93.0%;
92.3%;
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                                                    Score 66; I
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Pred. No. 0
                                     Mismatches
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0.00017;
                                                                 DB 3;
                                                    .0002;
                                                                 Length 191;
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                                    Indels
                                    0;
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                                    Gaps
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US-08-807-992B-2
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                                                                                                                                                                                                                       Sequence 2, Application US/08691794 Patent No. 6057428
                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2, Patent No.
                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Keyt,
APPLICANT: Nguyen
                                                          APPLICANT: Li, Bing
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
                                                                                                                           APPLICANT:
                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: David Frashker, Esq.
REGISTION NUMBER: 29,693
REFERENCE, DOCKET NUMBER: BIT
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Es
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                     87 CNDEGLECYPTEE 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
STRANDEDNESS: si
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FILING DATE: March 3, 1997
CLASSIFICATION: 424
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPERATING SYSTEM:
SOFTWARE: Wordper
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2, Application US/08807992B
b. 6022541
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                                                                                                                                    Ferrara, Napoleone
Cunningham, Brian C.
                                                                                                                                                                     Nguyen, Francis H.
                                                                                                                        Wells,
                                                                                                         Li, Bing
                                                                                                                                                                                        Keyt, Bruce A.
                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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 Flehr, Hohbach, Test, Albritton & Herbert
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                                                                                                                     James A.
                                                       Variants of Vascular Endothelial Cell
Growth Factor, Their Uses, and Processes for their
Production
                                                                                                                                                                                                                                                                                                                                                                                                   93.0%;
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Harold F
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5332671-4
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5332671-4
;Patent No. 5332671
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Best Local Similarity
"~+~hes 12; Conserv
                                                                                                                                                       FILING DATE:
SEQ ID NO:4:
                                                                                                                                                                                                                                                                                                     APPLICANT: FERRIRA, NAPOLEONE; LEUNG, DAVID W.H.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR AND DNA ENCODING SAME
NUMBER OF SEQUENCES: 15
                                               Matches
                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: .25-Aug-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: .05-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                         Local Similarity
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                                                                                                                                           LENGTH: 191
1 CNDEGLESVPTEE 13
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FILING DATE: 04-AUG-1989
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CITY: S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE: 02-AUG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        i: 191 amino acids
amino acid
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                                             Conservative
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                                        Score 66; DB
Pred. No. 0.00
0; Mismatches
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Pred. No. 0.0002;
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0.0002;
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CNDEGLECVPTEE 99

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RESULT 12
$7240848-11
$PAtent NO. 5240848
APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEF
APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEF
TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR
PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
NUMBER OF SEQUENCES: 11
CURRENT APPLICATION DATA:
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US-08-807-992B-3
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Best Local Similarity 92.3%;
Matches 12; Conservative
                                                                                                                                                                                                                                        COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WORDERFIECT VERSION 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                   TELEPHONE: (978) 525-3794 (NFORMATION FOR SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: DAVID PRESINER; ESG.
REGISTRATION UNMBER: 29,693
REFERENCE/DOCKET NUMBER: BIT
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/07/337,037
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 215 amino acids
                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: mEDIUM TYPE: Diskette, 3.50 inch, 1.40 mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
               TYPE: amino acid
STRANDEDNESS: sin
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T: P.O. Box 5387
Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Massachusetts
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
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Dvorak, Harold F
linear
                   single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vessel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood
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Pred. No. 0.00023;
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Query Match

93.0%;

Score 66;

DB 3;

Length 215;

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RESULT 14
5219739-22
Search completed: November Job time: 243 sec
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5240848-7
; Patent No. 5240848
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PATENT NO. 5219739

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN C.; MITCHELL, RICHARD L.

JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HUMAN HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN HVEGF 121 AND METHOSE CELL GROWTH FACTORS, BVEGF120 AND HVEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
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TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR
; PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
; UNUMBER OF SEQUENCES: 11
; CURRENT APPLICATION DATA:
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LENGTH: 215
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                                                                                                                                                         Matches . 12;
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Best Local Similarity
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Best Local :
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Matches 12; Conservative
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APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/07/
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
FILING DATE: 21-NOV-1988
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                                                                                         87 CNDEGLECVPIEE 99
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                                                                                                                                                                                                                                                                           LENGTH: 215
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Pred. No. 0.00
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Pred. No. 0.00023;
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

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Maximum DB
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Perfect score:
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1: /SIDS1/gcgda
2: /SIDS1/gcgda
           Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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/SIDS1/gcgdata/geneseq/geneseqp/AA1989.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Result No.	Score	% Query Match	Length DB	BB	ID	Description
ъ	133	96.4	110	21	Y69417	Amino acid sequenc
2	133	96.4	110	21	Y83038	Human vascular end
ω	133	96.4	121	12	R11385	Human vascular end
4	133	96.4	121	14	R42607	VEGF-121
5	133	96.4	121	17	W09091	Human VEGF/VPF121
Ø	133	96.4	121	17	W03677	Vascular permeabil
7	133	96.4	121	17	R96043	Human vascular per
8	133	96.4	121	17	R93977	Vascular permeabil
9	133	96.4	121	19	W40597	VEGF/VPF121. Homo
10	133	96.4	121	20	Y23943	Amino acid sequenc
11	133	.96.4	121	20	Y08278	Human growth facto
12	133	96.4	145	19	W56693	Vascular endotheli

09-SEP-1998; 26-MAR-1999; 27-MAR-1999;

98US-0099694. 99US-0126406. 99US-0126615.

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Human vascutar end			. 0	LJJ	Ü
acto segu	10941		90.4	1 L	1 #
encod	Y9040		200	1 L	ū
pox virus VE	20 Y33439	191 2	96.4	133	2
ar	W5739		96.4	133	Ξ
vas	W5739		96.4	133	ö
	W6252			133	39
ດ	W6933		96.4	133	8
Œ	W3824			133	37
VEGF165. Homo sap	R9400			133	8
endoth	W0072			133	35
vascular	R9107			133	34
vascular	R0800			133	ü
	Y9200		96.4	133	2
	Y0828		٠	133	31
Amino acid sequenc	Y4348		•	133	ŏ
VEGF (145)			٠	133	8
			٠	133	8
VEGF-165				133	27
vascular			96.4	133	8
Amino acid sequenc				133	25
Cys+2.	L7 R94032		•	133	24
1 Cys+4.			٠	133	23
_			٠	133	22
Amino acid se			96.4	133	21
VEGF encoded by cl			•	133	õ
ox vir	20 Y33437	-		133	9
acid sequen		7		133	8
21. Homo		7	•	133	۲7
vascular		7	96.4	133	9
vascul		G		133	5
acid se	21 Y69413	145 2	96.4	133	4
Human growth facto		u		133	ω

ALIGNMENTS

03-JUL-2000 Y69417; Y69417 standard; (first entry) Protein; 110 ₽.

Amino acid sequence of vascular endothelial growth factor 110.

blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pencreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; 09-SEP-1999; autoimmune disease; Human; vascular endothelial growth factor; VEGF 110; anglogenic factor; 16-MAR-2000. WO200013702-A2 Homo sapiens. amyloidosis. birth prematurity disorder; acute respiratory distress syndrome; 99WO-US20480 organ transplant; wound; allergy; hypersensitivity;
ransplant; focal glomerulosclerosis; pneumonia; pulmonary emboli;

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RESULT
Y83038
                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
(SCIO-) SCIOS INC.
                    09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                                               diarrhoea; allografts;
                                                         09-SEP-1999;
                                                                          16-MAR-2000
                                                                                            W0200013703-A2
                                                                                                              Homo sapiens.
                                                                                                                         meningitis; central nervous system; tumour; infection; bone hypoxia; hypercapnia; fibrosis; inflammatory bowel disease; diarrhoea; allografts; cardiac valve.
                                                                                                                                                   Vascular endothelial growth factor; human; angiogenesis; capillary formation; hypertension; treatment; kidney; CN
                                                                                                                                                                                Human vascular endothelial growth factor (hVEGF110).
                                                                                                                                                                                                      04-JUL-2000
                                                                                                                                                                                                                          Y83038
                                                                                                                                                                                                                                       Y83038 standard; Protein; 110
                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors as vascular endothelial growth factor (VEGF) \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Fig 12; 46pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schreiner GF, Johnson
                                                                                                                                                                                                                                                                                   (SCIO-) SCIOS
                                                                                                                                                                                                                                                                                                                           25;
                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                        110 AA;
                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                    (first entry)
                  98US-0099694.
99US-0126406.
99US-0126615.
                                                      99WO-US20481.
                                                                                                                                                                                                                                                                                                                                96.4%;
96.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RJ;
                                                                                                                                                                                                                                                                                                                     Score 133; DB Pred. No. 7.2e 0; Mismatches
                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                         A
                                                                                                                                          treatment; kidney; CNS; stroke; tumour; infection; bone growth;
                                                                                                                                                                                                                                                                                                                               DB 21;
.2e-14;
                                                                                                                                                                                                                                                                                                                                         21;
                                                                                                                                                                                                                                                                                                                                        Length 110;
                                                                                                                                                               VGEF;
                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                such
                                                                                                                                                                                                                                                                                                                    0;
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Query Match Best Local

Similarity

96.4%; 96.2%;

21;

Length 110;

0;

Sequence

110 AA;

밁 Qy

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CC for treating hypertension (especially salt-dependent hypertension)
CC Administration of VGEF promotes angiogenesis and/or vascular or
CC capillary permeability. The method is also useful in treating
CC disorders related to abnormal transport of solutes across endothelial
CC disease associated with impaired filtration or prevention of kidney
CC disease associated with impaired filtration or prevention of solutes;
CC meningitis, tumour, infections in cerebrospinal fluid, e.g. stroke,
CC cor prevention of fluid secretions in the lungs, e.g. acute respiratory
CC distress syndrome, toxic alveolar injury, pneumonia, infections,
CC gulmonary dysfunction arising from injury, pneumonia, infections,
CC pulmonary dysfunction arising from injury to the pulmonary
CC cryptreading disorders arising from prevention of
CC pulmonary hypertension, treatment or prevention of
CC pulmonary hypertension, treatment or prevention of solutes accumulation of fluid and solutes across the intestinal
CC prevention of ascites accumulation in the peritoneum; enhancement of
CC efficacy of solute flux; preservation or enhancement of function of
CC corgan allografts; and treatment of cardiac valve disease. This
CC sequence is the native human vascular emothelial growth
CC endothelium. VGEF exists as five different length monomer chains due
CC endothelium. VGEF exists as five different length monomer chains due
CC to alternative splicing of the VGEF RNA transcript.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Figure 11; 51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel methods for treating hypertension by administering increases angiogenesis and/or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Administering vascular endothelial growth factor (VGEF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schreiner GF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   핂;
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RESULT
R11385
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                                                                                                                                                                                                               Matches
14-DEC-1989;
27-JUL-1989;
                    27-JUL-1990;
                                                  WO9102058-A.
                                                                                                                                           R11385 standard; Protein;
                                   21-FEB-1991
                                                                Bos taurus.
                                                                          Bovine vascular endothelial cell growth factor; angiogenesis; wound healing; hVEGF; PDGF.
                                                                                                Human vascular'endothelial cell growth factor 121.
                                                                                                                  08-MAY-1991
                                                                                                                                 R11385;
                                                                                                                                                                              ω
                                                                                                                                                                                                            25;
                                                                                                                                                                                                             Conservative
                                                                                                               (first entry)
E90S-0450883
                    90WO-US04227.
                                                                                                                                             121 AA
                                                                                                                                                                                                             0;
                                                                                                                                                                                                            Score 133; DB 21;
Pred. No. 7.2e-14;
0; Mismatches 1
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                                                                                                                                                                                                           Gaps
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RESULT
R42607
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The two forms of VEFG (Q10797 and Q10917) which arise through Cd different message splicing, have different properties. In partic. CC hVEGF121 does not bind to heparin leaving more of the protein free to bind to VEGF receptor and increase the half-life and distribution of the protein in circulation, whereas hBEGF165 binds heparin strongly. Crime product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment of full-crickness wounds such as dermal ulcers, venous ulcers and diabetic culcers, burns, in surgery, in balloon angioplasty and for the in culturing of endothelial cells. Hybrid growth factors of PDGF and VEGF can exhibit a mitogenic profile between each factor and cc can be used for wound healing or as inhibitors of angiogenesis for CC users preventing the growth of tumours.

CC VEGF analogues in which CYS residues are substd. are more stable.

CC VEGF analogues in which CYS residues are substd. are more stable.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local :
 27-JUL-1989;
14-DEC-1989;
                                                                     15-JUN-1993.
                                                                                                 US5219739-A.
                                                                                                                                                                     Misc-difference
                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                  Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                              Human VEGF-121
                                                                                                                                                                                                                                                                                                                                       28-OCT-1993 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                               R42607 standard; Protein; 121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Fig 7(1-2); 94pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1991-073534/10
                                         27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CALB-) CALIF BIOTECHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
25; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q11099
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
89US-0387545.
89US-0450883.
                                         89US-0387545
                                                                                                                                                                   /note- "inserted amino acid relative to bVEGF" 115
                                                                                                                                                                                                    Location/Qualifiers
                                                                                                  ١
                                                                                                                                                      /note= "Lys 115 of hVEGF-121 is replaced by 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fiddes
                                                                                                                          amino acids encoded by an alternatively spliced exon in hVEGF-165 (see R38921)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 133; DB 12;
Pred. No. 8.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mitchell RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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RESULT
W09091
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Best Local
                                                                                                                                                                                                                                                  vascular permeability factor; vaccine; vascularisation;
glaucoma; eye tumour; trachoma; psoriasis; granuloma;
hypertrophic scar; post-crystalline fibrosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences can
                                                                           WPI; 1996-450932/45
                                                                                                                                                                                                                                                                                                                                                                      w09091 standard; protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1993-205302/25
N-PSDB; Q49601.
                                                                                                                               01-DEC-1994;
                                                                                                                                                                                                JP08225462-A.
                                                                                                                                                                                                                                        senile
                                                                                                                                                                                                                                                                                                           Human VEGF/VPF121 for treatment of vascularisation
                                                                                                                                                                                                                                                                                                                                                       W09091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       be generated using PCR with human foetal vascular smooth muscle poly-A+\ RNA as template.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 3; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 required
                   Example; Page 6-7; 7pp; Japanese
                                                   comprises peptide derived
                                                                Vaccine for treatment
                                                                                                                                                     30-NOV-1995;
                                                                                                                                                                          03-SEP-1996.
                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                    VEGF; VPF; vascular endothelial cell growth factor;
                                                                                                                                                                                                                                                                                                                                05-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Abraham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-JUL-1990;
                                                                                                         (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (SCIO-)
                                                                                                                                                                                                                                                                                                                                                                                                                                disk muscular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SCIOS NOVA INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7; 40pp;;/English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fiddes
                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90US-0559041.
                                                                                                                              94JP-0298718
                                                                                                                                                     95JP-0312562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96.4%;
96.2%;
                                                                                                                                                                                                                                         degeneration
                                                                of vascularisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mitchell RL,
                                                    from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 133; DB 14;
Pred. No. 8.1e-14;
                                                                                                                                                                                                                                                                                                                                                                             Æ
                                                    vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tischer
                                                   n diseases, e.g. o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                           diseases
                                                   growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
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A vaccine for treatment and prevention of diseases caused

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RESULT WOS6777
LID WOS6777
LID WOS6777
ACC CC LIC WC
CCC St
CCC S
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                                                                                     Query Match
Best Local S
Matches 25
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Best Local Similarity 96.3
Matches 25; Conservative
  1
                                                                                                                                                                                                                                                            This is the amino acid sequence of the vascular permeability factor (VPF), a member of the growth factor family. Several VPF types are known having 121, 165, 189 or 206 amino acids. This sequence was used to generate a series of overlapping peptides having 10 residues which worse used to raise antibodies against the VPF peptide. The two peptides w03678-9 generated the greatest antibody signal against the VPF protein. These clones were used to manufacture hybridomas producing monoclonal antibodies which are useful for diagnosis and treatment of cancers and
                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 10; 13pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New peptide, useful as antigen for preparing vascular permeability factor monoclonal antibody - is used in treatment agent for cancers and as biochemical reagents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1996-358508/36.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-OCT-1994;
10-JUN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JP08169898-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W03677;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W03677 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vascularisation comprising a cell growth factor or its fragments which stimulate vascular cell proliferation is provided. The vaccine can be used for treating cancers, glaucoma, eye tumours, trachoma, psoriasis, granuloma, hypertrophic scars, post-crystalline fibrosis and senile disk muscular degeneration. A preferred protein for use in the vaccine is human VEGF/VPF121,
1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
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25; Conserv
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                                                                                Conservative
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                                                                                                                                                                                                              AA,
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94JP-0152805.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein; 121
                                                                                                      96.48;
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                                                                     Score 133; DB Pred. No. 8.1e 0; Mismatches
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                                                                                                DB 17;
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.1e-14;
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                                                                                                                   Length 121;
                                                                     Indels
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                                                                                                                                                                                                                                                Matches
         JP07330795-A.
                            Homo sapiens.
                                                         vascular permeability factor;
                                                                             Vascular permeability factor-121.
                                                                                                      12-JUL-1996
                                                                                                                           R93977;
                                                                                                                                              R93977 standard;
                                                                                                                                                                                                                                                                                                           This sequence represents the human vascular permeability factor (hVPF). The monoclonal antibody of the invention (MVI01) reacts with this hVPF sequence. MVI01 does not, however, react with a peptide composed of ten sequence residues of this sequence starting from an odd number from the V-terminus of this sequence (e.g. residues 1-10, residues 5-14, residues 47-56 etc.). The antibody can be used for diagnosis and treatment of cancer and other diseases. When it is used as an anti-cancer agent, it is preferably in the form of a chimeric or humanised antibody.
                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 9; 10pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                Monoclonal antibody reacting with human vascular permeability factor useful for treatment and diagnosis of cancer and other diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1996-175730/18.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vascular permeability factor; VPF; human; montherapy; cancer; chimera; humanised antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-JUN-1994;
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                                                                                                                                                                                                                                             25; Conservative
                                                                                                                                                                                                                                                                                                 121 AA;
                                                                                                    (first
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                                                                                                                                             protein; 121 AA.
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                                                                                                                                                                                                                                                     Score 133;
Pred. No. 8
                                                   VPF121; monoclonal antibody;
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1.1e-14;
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Best Local S
Matches 25
                                 The patent discloses a vascularisation-controlling vaccine comprising a cell growth factor which specifically promotes growth of endothelial cells. The vaccine is typically used in immunotherapy to remedy diseases caused by vascularisation, such as solid tumours, and to control the onset and recurrence of such diseases. Typical growth factors include vascular permeability factor (VPF) and vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequence represents VPF121. The patent relates to three new short peptides derived from this sequence (see R93978 - R93980) to monoclonal antibodies raised against them which are useful as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Partial peptide(s) of VPF121 and monoclonal antibodies - anticancer agents
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                                                                                                                                  Vascularisation-controlling vaccine - contains endothelial cell growth factor, used in the immunotherapy of solid tumours
                                                                                                                                                                                                                                               31-MAY-1996;
                                                                                                                                                                                                                                                                                                                                        vascular endothelial growth factor; VEGF; permeability; VPF;
immunotherapy; vaccine; cancer; vascularisation.
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Sequence
                                                                                                                  Disclosure;
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                                                                                                                                                                                                  (TOAG ) TOA GOSEI CHEM IND
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                                                                                                                                                                                                                                                                                                                  Homo sapiens
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                      factor (VEGF).
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 121
                                                                                                                 Page 7; 9pp; Japanese
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                                                                                                                                                                                                                                                                                                                                                                                                                                                protein; 121
                      present sequence is that of human VEGF/VPF121
                                                                                                                                                                                                                                                                                                                                                                                                    entry)
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Pred. No. 8.1e-14;
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RESULT
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                                                                                                                       14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The specific to veces and the specific to veces the specific to veces and the specific to veces the v
                   pharmaceutical
                                     Growth factor;
                                                                               Human
                                                                                                                                                                   Y08278
                                                                                                                                                                                                           Y08278 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New VEGF121-specific monoclonal antibody - useful for measuring levels of VEGF121
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                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                           Protein; 121
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                                                                               fragment VEGF-A121
                                     cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                                                                                                                                                                                                         Score 133;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 133; DB 19;
Pred. No. 8.1e-14;
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                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                           8.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                             BB
                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 121;
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В
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Best Local Similarity
Matches 25; Conserv
 Keshet E,
                       (COLL-)
                                                       21-JAN-1997;
06-SEP-1996;
                                                                                    04-SEP-1997;
                                                                                                         12-MAR-1998.
                                                                                                                               WO9810071-A1
                                                                                                                                                           Key
Misc-difference
                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                        Vascular endothelial growth factor; VEGF145; anglogenic factor; cell proliferation; cardiovascular disease; drug permeation. tumour.
                                                                                                                                                                                                                                        Vascular endothelial growth factor-145 (VEGF145).
                                                                                                                                                                                                                                                                  24-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39,7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                         W56693 standard; Protein; 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Preparing active growth factor dimers from inclusion bodies in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    yield
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1999-278785/24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Erdmann H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG MBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                       1 CNDEGLESVPTEESNITMQIMRIKPH 26
                     COLLATERAL THERAPEUTICS.
TECHNION RES & DEV CO LTD.
    Neufeld G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Page 7; 14pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kaerst U,
                                                                                                                                                                                                                                                                (first entry)
                                                     97US-0784551
96US-0025537
                                                                                  97WO-US15471
                                                                                                                                                            Location/Qualifiers
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                                                                                                                                              note= "encoded by ACG"
                                                                                                                                                                                                                                                                                                                                                                                                           96.4%;
  Poltorak Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mueller C,
                                                                                                                                                                                                                                                                                                                                                                                                Score 133; DB Pred. No. 8.1e 0; Mismatches
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Vlodavsky
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                                                                                                                                                                                                                                                                                                                                                                                                          DB 20;
.1e-14;
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                                                                                                                                                                                                                                                                                                                                                                                                                   Length 121;
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PI XX DR XX PI PI PI PI
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Y08279
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This represents a vascular endothelial growth factor-145 (VEGF145) which CC can be used to stimulate vascular cell proliferation. Polynucleotides cell encoding VEGF145 are useful for treatment of cardiovascular or vascular cell growth factor of cardiovascular cell growth for enhancing control of the proliferation of the proliferation of the stimulate cell growth of the proliferation of the enhance endothelialization of diseased control of the proliferation of the enhance endothelialization of diseased control of the proliferation of the partin binds much better compared to the proliferation after angioplasty in mammals. CC vegF145, which binds as weakly as VegF165 to beparin, binds much better compared to the producer cells and binds efficiently to ECM. CC This combination of properties render VEGF145 the only known VEGF variant that is secreted from producing cells retaining at the same time ECM carget blood vessels, while some of the produced VEGF145 will be retained by ECM components along the path of diffusion. This ECM bound pool will consiste slowly allowing a longer period of activity. Additionally, the biological activity of VEGF145 is protected against oxidative damage unlike VEGF forms such as VEGF121 thereby giving it a longer half-life.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local s
Matches 25
                            Preparing active growth factor dimers yield
                                                                    WPI; 1999-278785/24
                                                                                                    Erdmann
                                                                                                                          (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG MBH
                                                                                                                                                               05-NOV-1997;
                                                                                                                                                                                           05-NOV-1997;
                                                                                                                                                                                                                                                                                                                    Growth factor; Auman; dimer; cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                           06-MAY-1999
                                                                                                                                                                                                                                                      DE19748734-A1.
                                                                                                                                                                                                                                                                                    Homo sapiens.
                                                                                                                                                                                                                                                                                                                   pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                            14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                         Y08279;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Y08279 standard; Protein; 145 AA
                                                                                                                                                                                                                                                                                                                                                       Human growth factor protein fragment VEGF-A145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular endothelial growth factor-145 splice variant - uanglogenic factor for treatment of cardiovascular disease
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N-PSDB; V28396.
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                                                                                                  Η,
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                                                                                     Kaerst U
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                                                                                                                                                           97DE-1048734.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96.4%;
96.2%;
                                                                                               Mueller C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 133; DB 1
Pred. No. 1e-13;
0; Mismatches
                                                                                             Rinas U,
                                      from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 19;
                                   inclusion bodies
                                                                                             Weich
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 145;
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Claim 14;

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7; 14pp; German

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Best Local S
Matches 25
                                                                                                                                                                                                                                                                                      09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; vascular endothelial growth factor; VEGF 145; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; penumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                                                                                                           Novel methods and compositions for the prevention and treatment microvascular angiopathies by administration of angiogenic factor as vascular endothelial growth factor (VEGF) - ^{\circ}
The present sequence represents native human vascular endothelial growth factor (VEGF) 145. VEGF is an angiogenic factor. VEGF proteins are used for the prevention or repair of injury to blood vessels or associated nonvascular tissues (served by the blood vessels) and for the prevention
                                                                                                                                                                                                                                                                                                                                                     09-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                    16-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amyloidosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Amino acid sequence of vascular endothelial growth factor 145
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                                                                                                                                                                                                                                                       (scio-) scios
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
                                                                                                                                                                                          2000-256861/22.
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                                                                                                                                                                                                                                                         INC.
                                                                                                                                                                                                                                                                                      98US-0099694.
99US-0126406.
99US-0126615.
                                                                                                                                                                                                                         Johnson
                                                                                                                                                                                                                                                                                                                                                     99WO-US20480
                                                                               5
                                                                               46pp;
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                                                                               English
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Pred.
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. No. 1e-13;
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RESULT

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AC Y8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
Administering vascular endothelial growth factor (VGEF) can be for treating hypertension (especially salt-dependent hypertensis Administration of VGEF promotes angiogenesis and/or vascular or capillary permeability. The method is also useful in treating disorders related to abnormal transport of solutes across endot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascular endothelial growth factor; human; anglogenesis; VGEF; capillary formation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth; hypoxia; hypercapnia; fibrosis; inflammatory bowel disease; diarrhoea; allografts; cardiac valve.
                                                                                                                                                                          Claim
                                                                                                                                                                                                                                Novel methods for treating hypertension by administering a factor which increases angiogenesis and/or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200013703-A2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human vascular endothelial growth factor (hVEGF145).
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                                                                                                                                                                                                                                                                                                                                                  2000-256862/22.
                                                                                                                                                                       3; Figure, 7;
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99US-0126406.
99US-0126615.
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                                                                                                                                                                                                                                                                                                                                                                                                           Johnson
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                                                                                                                                                                       51pp; English.
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0; Mismatches
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Search completed: November 9, 2000, 15:30:40 Job time: 105 sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cc cells. Such disorders include the treatment or prevention of kidney cd disease associated with impaired filtration or excretion of solutes; the treatment or prevention of diseases of the central nervous system cassociated with alterations in cerebrospinal fluid, e.g. stroke, cmeningitis, tumous, infections, and bone growth disorders; treatment or prevention of fluid secretions in the lungs, e.g. acute respiratory distress syndrome, toxic alveolar injury, pneumonia, infections, custic fibrosis; treatment or prevention of customers toxic alveolar injury, pneumonia, infections, custic fibrosis; treatment or prevention of guinonary dysfunction arising from injury to the pulmonary dysfunction arising from prevention of disease arising cultimonary hypertension; treatment or prevention of disease arising crom disordered transport of fluid and solutes across the intestinal customers arising from prevention of disease arising crom disordered transport of fluid and solutes across the intestinal customers of solute flux; preservation or enhancement of customers of solute flux; preservation or enhancement of function of corgan allografts; and treatment of cardiac valve disease. This sequence is the native human vascular endothelial growth customers arising customers arising customers allografts. The activity of VGEF is mediated by interaction customers conditions of the vascular endothelial growth customers arising customers arising conditions of the vascular solutions.
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Best Local Similarity
Matches 25; Conserv
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                                                                                                                                                                                                         61 cndeglecvpteesnitmqimrikph 86
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                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                             96.4%; Score 133; DB 21; Length 145; 96.2%; Pred. No. 1e-13; tive 0; Mismatches 1; Indels
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Result
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Maximum Match 100%
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seq length: 0 seq length: 2000000000
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Match Length
    Issued_Patents_AA: *
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138
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CNDEGLESVPTEESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5CTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                              BB
            PCT US96-09001-10
US-08-999-811-7
US-08-824-996-9
US-08-807-992B-4
US-09-042-105-7
US-08-469-427A-15
US-08-569-063C-20
5194596-9
5219739-9
5194596-17
5219739-18
5332671-3
                                                                                                                                                                                                                      US-08-567-200A-2
US-08-807-992B-2
US-08-691-794-2
5332671-4
                                                                                                                                                                                             5240848-11
US-08-807-992B-3
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US-08-807-992B-1
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5194596-19
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Sequence 15, Appl
Sequence 20, Appl
Sequence 20, Appl
Patent No. 5194596
Patent No. 5219739
Patent No. 5219739
Patent No. 5332671
Patent No. 5219739
                                                                                                              Sequence 2, Appli
Sequence 1, Appli
Patent No. 5194596
Patent No. 5219739
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Patent No. 5332671
Patent No. 5240848
Sequence 3, Appli
Patent No. 5240848
Sequence 10, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 4, Appli
Sequence 4, Appli
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Patent No. 5194596
Patent No. 5219739
                                                                                                                                                                                                                                                                                                                                                                           Description
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                    STREET: Four Embarcadero
CITY: San Francisco
STATE: California
                         TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: United States ZIP: 94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3, Application US/08691794
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	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29
	66	66	66	66	66	66	66	67	67	67	67	67	75	75	75	75	83
, r.,	47.8	47.8	47.8	47.8	47.8	47.8	47.8	48.6	48.6	48.6	48.6	48.6	54.3	54.3	54.3	54.3	60.1
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AL TGUMENTS	US-08-469-427A-5	US-08-569-063C-9	US-08-609-443B-9	US-08-469-427A-9	US-08-569-063C-2	US-08-609-443B-2	US-08-469-427A-2	US-08-569-063C-15	US-08-609-443B-15	US-08-569-063C-11	US-08-609-443B-11	US-08-469-427A-11	US-08-039-297B-8	US-08-569-063C-21	US-08-039-297B-2	US-08-469-427A-14	US-08-807-992B-24
	Sequence 5, Appli	•	Sequence 9, Appli	Sequence 9, Appli	`	Sequence 2, Appli	Sequence 2, Appli	-	Sequence 15, Appl	-	`	Sequence 11, Appl	Sequence 8, Appli	Sequence 21, Appl	Sequence 2, Appli	Sequence 14, Appl	Sequence 24, Appl

ALIGNMENTS

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GENERAL INFORMATION:
APPLICANT: Keyt. Bruce A.
APPLICANT: Myven, Francis H.
APPLICANT: Myven, Francis H.
APPLICANT: Sylven, Francis H.
APPLICANT: Pariants, Mapoleone
APPLICANT: Pariants, Brian C.
APPLICANT: Pariants of Vascular Endothelial Cell
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Production
NUMBER OF SEQUENCES:
45
CORRESPONDENCE ADDRESS:
45
CONPUTRY: United States
COUNTRY: United States
COUNITED States
COUNTRY: United States
COUNTRY: United States
COUNTR
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RESULT
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                                                                                                                                                   5219739-20
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;APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
;JOHN C.;MITCHELL, RICHARD L.
;JOHN C.TILE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND
;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
;NUMBER OF SEQUENCES: 40
;NUMBER OF SEQUENCES: 40
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5219739-20
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                                                                                                Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO:19:
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Best Local Similarity
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                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/(
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
FRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
                                61 CNDEGLECVPTEESNITMQIMRIKPH 86
                                                                                                                                                                                   APPLICATION NUMBER: 450,883 FILING DATE: 14-DEC-1989 APPLICATION NUMBER: 387,545 FILING DATE: 27-JUL-1989
                                                                                                                                                            LENGTH: 121
                                                        1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                           61 CNDEGLECVPTEESNITMQIMRIKPH 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 27-JUL-1989
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25; Conserva
                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                             96.4%;
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96.2%;
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96.2%;
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                                                                                Score 133; DE Pred. No. 5.76 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
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Pred. No. 5e-15;
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                                                                                             DB 5;
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.7e-15;
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RESULT 5
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                                                                                                                                                                                      Sequence 1, Application US/08807992B Patent No. 6022541
                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local (
                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Senger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY AGENT INFORMATION:

NAME: Cohen, Herbert
25,109
REGISTRATION NUMBER: 25,109
REFERENCE/DOCKET NUMBER: 0274
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 463-7700
                                                                  TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                              NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                    APPLICANT: Sencer,
APPLICANT: Dvorak,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   UPERATING SYSTEM: IBM P.C. DOS 5.0 SOFTWARE: FastSEQ for Windows 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/784
FILING DATE: January 21, 1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Gera Neufeld
APPLICANT: Eli Keshet
APPLICANT: Israel Vlodavsky
APPLICANT: 20ya Poltorak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: Suité 1000
STATE: Washington, D.C.
COUNTRY. WAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: ZOYA POLTOTAK
TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF
TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE
                                                                                                                                                                                                                                                                                       61 CNDEGLECVPTEESNITMQIMRIKPH 86
                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 145 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                           1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (202) 463-6915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: U
ZIP: 20006
                                                                                                                                                                                                                                                                                                                                                             25;
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6013780
                                                                                                                                                                                                                                                                                                                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                   David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IBM Compatible
Box 5387
                                                                                                                                    Donald R
Harold F
                                                                Immunological preparation for concurrent specific bidding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blo vessel
                                                                                                                                                                                                                                                                                                                                                                            96.4%;
96.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08/784,551C
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                                                                                                                                                                                                                                                                                                                                                        Score 133; DB 3; Pred. No. 7.2e-15; 0; Mismatches 1
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                                                                                                                                                                                                                                                                                                                                                                                        Length 145;
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P.O.

COUNTRY:

USA

Massachusetts

01930

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RESULT 7
5219739-19
; PATENT NO. 5219739
; PATENT NO. 5219739
; PATENT NO. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN G.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND
; HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 6
5194596-18
5194596-18
5294596
5394596
5394596
54 APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOH
54 C.; MITCHELL, RICHARD L.
55 TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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Best Local Similarity
Thes 25; Conserve
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Best Local
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,9921
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 32
CURRENT APPLICATION INMEER: US;07/450,883
FILING DATE: 14-DEC-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: DAVID PRESIDER: 29,693
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                     61 CNDEGLECVPTEESNITMQIMRIKPH 86
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mes 25; Conserv
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96.2%;
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                                                                                                                                                                                                                                                                                                        Score 133; DE
Pred. No. 8.5e
0; Mismatches
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Pred. No. 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                                                                         DB 5;
.5e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 3;
.3e-15;
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                                                                                                                                                                                                                                                                                                                                         Length 165;
                                                                                                                                                                                                                                                                                                          Indels
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1 CNDEGLESVPTEESNITMQIMRIKPH 26

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RESULT 8
US-08-567-200A-2
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GENERAL INFORMATION:
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Best Local
                    Query Match
Best Local
 Matches
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TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: A-TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 'Floppy disk
                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin RelacTRENT APPLICATION DATA:
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TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Nguyen, Francis H. APPLICANT: Ferrara, Napoleone
                                                                                      MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                           TYPE: amino acids
                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/01
FILING DATE: 05-DEC-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 CNDEGLECYPIEESNITMQIMRIKPH 86
                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                    TELEPHONE:
                                                                                                                                                                                                                                                                        NAME: Dreger, Walter H. REGISTRATION NUMBER: 24,190
                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS
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CITY: San Francisco
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                Госа
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25; Conservative
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94111-4187
                Similarity
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 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Variants of Vascular Endothelial Cell
Growth Factor, Their Uses, and Processes for their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96.4%;
                96.4%;
96.2%;
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Pred. No. 8.5e-15;
               Score 133; DB 3
Pred. No. le-14;
 Mismatches
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Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                        Version #1.30
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Gaps
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RESULT 10
US-08-691-794-2
Sequence 2, Application US/08691794
Patent No. 6057428
GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY_AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE_POCKET NUMBER: BIS-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
                                                        APPLICANT: Li, Bing
TITLE OF INVENTION: 1
TITLE OF INVENTION: 1
TITLE OF INVENTION: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                     APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTERISTICS:

A: 191 amino acids

STRANDEDNESS: sir-

TOPOLOGY: 1:

807-992-
                                        NUMBER OF SEQUENCES:
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TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                              APPLICANT:
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SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
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APPLICANT: Dvorak, Harold F
                                                                                                                                                                                                                                                                                                                                   87 CNDEGLECVPTEESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
CLASSIFICATION: 424
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                                                                                                                            Wells,
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O. Bex 5387
                                                                                                                            James A.
                                                     Variants of Vascular Endothelial Cell
Growth Factor, Their Uses, and Processes
Production
 Hohbach, Test,
                                                                                                                                                                                                                                                                                                                                                                                                                  96.4%; Score 133; DB 3 96.2%; Pred. No. 1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in vivo to a tumor associated blood
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Albritton & Herbert
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                                                                 for their
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RESULT 11
5332671-4
;Patent NO. 5332671
; APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
;GROWTH FACTOR AND DNA ENCODING SAME
NUMBER OF SEQUENCES: 15
; CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/389,722
; FILING DATE: 04-AUG-1989
; PRIOR APPLICATION NUMBER: 360 474
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5332671-4
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                                                                                                                                                                                FILING DATE:
SEQ ID NO:4:
                                                                                   Query Match
Best Local :
                                                                     Matches
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TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 60/
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: A-63758/WHD TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION DATA:
PRIOR APPLICATION NUMBER: US 60/002,827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/691,794 FILING DATE: 02-AUG-1996 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDLUM TYPE: 'Floppy disk
COMPUTER: LBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                              APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
                   1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                87 CNDEGLECVPTEESNITMQIMRIKPH 112
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Dreger, Walter H. REGISTRATION NUMBER: 24,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PU
OPERATING SYSTEM:
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CNDEGLECVPIEESNITMQIMRIKPH 112
                                                                   l Similarity
25; Conserv
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amino acid
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California
                                                                Conservative
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                                                                             96.4%;
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96.2%;
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                                                                             Score 133; DB 5
Pred. No. 1e-14;
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Pred. No. 1e-14;
                                                                 Mismatches
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                                                                                           Length 191;
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US-08-807-992B-3
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5240848-11
;Patent No. 5240848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR; PERMEABILITY FACTOR HAVING 189 AMINO ACIDS NUMBER OF SEQUENCES: 11
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO:11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 96.2
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3, Application US/08807992B Patent No. 6022541
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                (NFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: P.O. Box 5387
CITY: Magnolia
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/07/337,037
FILING DATE: 10-JUL-1989
PRIOR APPLICATION NUMBER: 274,061
FILING DATE: 21-NOV-1988
                                                                                                                                                                                                   CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
                                                                                                                                                                                                                                                                                                                         SOFTWARE: WordPerfect version 5.1 CURRENT APPLICATION DATA:
                                                                                                                                                                 TELECOMMUNICATION INFORMATION: TELEPHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                 TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PS/
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           87 CNDEGLECVPTEESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
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                                                                                                                 ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                              01930
                                                                                                                215 amino acids
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Dvorak, Harold F
                                                                                                                                                                                                                                                                                                                                                                            IBM PS/1
                                                                   linear
                                                                              single
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96.2%;
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                                                                                                                                                                                                                                                                                                                                                            MS DOS
96.48;
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Pred. No. 1
Score 133;
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DB 3;

Length 215;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO:7:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 10, Application PC/TUS9609001 GENERAL INFORMATION:
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                          CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NIMBER: 08/465,96
EILING DATE: 6 JUN 95
EILING DATE: 8 MAR 1994
ATTORNEY/AGENT INFORMATION:
NAME: FERRARD, GREGORY D.
REGISTRATION NUMBER: 36,114
REFERENCE/DOCKET NUMBER: 3258
TELECOMMUNICATION INFORMATION:
              TELEFAX: 20 INFORMATION FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/07/:
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
                                                                                                                                                                                                                                                                                     COMPUTER: IBM PS/2
OPERATING SYSTEM: MS-DOS
SOFTWARE: WORD PERFECT 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Human Vascular EndothelialGrowth Factor NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
ADDRESSEE: CARELLA, BYRNE, BAIN, GILFILLAN,
ADDRESSEE: CECCHI, STEWART & OLSTEIN
STREET: 6 BECKER FARM ROAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 11 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 INCH DISKETTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: HU, ET AL.
TITLE OF INVENTION: H
SEQUENCE CHARACTERISTICS:
               TELEPHONE: 201-994-174
                                                                                                                                                                                                                                                     APPLICATION NUMBER: PCT/US96/09001 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: U:
ZIP: 07068
                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: ROSELAND
STATE: NEW JERSEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity tes 25; Conserv
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96.2%;
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Pred. No. 1.
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); Mismatches 1
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.2e-14;
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LENGTH: 231 AMINO ACIDS
TYPE: AMINO ACID
STRANDEDNESS:
TOPOLOGY: LINEAR
MOLECULE TYPE: PROTEIN
PCT-US96-09001-10 Query Match 96.4%; Score 133; DB 4; Length 231; Best Local Similarity 96.2%; Pred. No. 1.3e-14; Matches 25; Conservative 0; Mismatches 1; Indels 1; Indels 0; Gaps 0;

Search completed: November 9, 2000, 15:33:02 Job time: 243 sec

В

Page 6

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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
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    No. is the number of results predicted by chance to have a
re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.

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    1: /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT: *
22: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT: *
32: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT: *
32: /SIDS1/gcgdata/geneseq/geneseqp/AA1982.DAT: *
32: /SIDS1/gcgdata/geneseq/geneseqp/AA1983.DAT: *
33: /SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT: *
35: /SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT: *
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35: /SIDS1/gcgdata/geneseq/geneseqp/AA1987.DAT: *
35: /SIDS1/gcgdata/geneseq/geneseqp/AA1997.DAT: *
36: /SIDS1/gcgdata/geneseq/geneseqp/AA1997.DAT: *
37: /SIDS1/gcgdata/geneseq/geneseqp/AA1997.DAT: *
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Copyright (c) 1993 - 2000 Comp
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14.778 Million cell updates/sec
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Bovine vascular en Bovine VEGF-164.
Human VEGF-165. H Vascular endotheli Vascular endotheli
                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
R10911
    Bovine vascular endothelial cell growth factor; angiogenesis;
                                                                                                                                                                                                                                                                                                                                                                             Bovine vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                        08-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R10911 standard; Protein; 164 AA.
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9403	Y83035	Y69414	Y90403	Y07725	Y33439	W57399	W57398	W62525	W69331	W38242	R94002	W00724	R91076	R08002	Y57028	Y33441	Y33440	W53643	W53642	W53639	R27352	R27351	R27350		R08001	R08120	Y92005	Y08281	828	Ξ	109	W31094
VEGF165 Cys+4. Ho	Human vascular end	Amino acid sequenc	VEGF encoded by cl	Human VEGF protein	Parapox virus VEGF		nt vascular	acid	Ħ	Vascular endotheli		endoth	Human vascular end	Human vascular end				н	Vascular endotheli			uence of	uence of v	scular End	Bovine vascular en	lian glio	vascula	growth	owth fact	cular endothe	cular endothel	Vascular endotheli

ALIGNMENTS

cell growth factor 164.

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DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation in wound healing
                                                                      WPI; 1991-073534/10.
N-PSDB; Q10791.
                                                                                                                            Tischer ER, Abrhamam,
                                                                                                                                                                                                     14-DEC-1989;
27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                      Bos taurus.
                                                                                                                                                                 (CALB-) CALIF BIOTECHN INC.
                                                                                                                                                                                                                                                         27-JUL-1990;
                                                                                                                                                                                                                                                                                               21-FEB-1991.
                                                                                                                                                                                                                                                                                                                                  WO9102058-A.
                                                                                                                                                                                                     39US-0450883
39US-0387545
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                                                                                                                              'n,
                                                                                                                                Mitchell
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CC eg. preventing the growth of tumours.

CC See also Q10791-93; Q10796-97; Q10806-08 and Q11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                        27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
               Isolated DNA sequences, expression vectors and transformant cells used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                      WPI; 1993-205302/25.
P-PSDB; Q44259.
                                                                                                          Abraham JA,
                                                                                                                                                                                                         27-JUL-1989;
             required
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                                                                                                                                                                                                                                                        US5219739-A.
                                                                                                                               (SCIO-) SCIOS NOVA INC.
                                                                                                                                                                                                                                                                                                                                                         BOS.
                                                                                                                                                                                                                                                                                                                                                                                 Angiogenesis;
Vascular Endo
                                                                                                                                                                                                                                                                                                                                                                                                                  Bovine VEGF-164.
                                                                                                                                                                                                                                                                                                                                                                                                                                           28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R38920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Fig 6(1-3); 94pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 ERRKHLEV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                             esis; wound l
Endothelial
                                                                                                        Fiddes JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               164 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                       89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                       8905-0387545
                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                                       healing; mitogen; vascular endothelial cells;
1 Cell Growth Factor; bVEGF-164; bVEGF-120.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90.9%;
                                                                                                                                                                                                                                                                        "encoded by exon which is absent in the alternatively spliced coding sequence which encodes bVEGF-120"
                                                                                                        Mitchell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 206; DB Pred. No. 1.7e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 English.
                                                                                                     RL,
                                                                                                  Tischer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 12;
.7e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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RESULT
R38921
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                    27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                                      Isolated DNA sequences, expression vectors and transformant cells used for large scale prodm. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                Example 7; Fig 7; 40pp;
                                                                                                                                                    WPI; 1993-205302/25.
N-PSDB; Q44260.
                                                                                                                                                                                 Abraham
                                                                                                                                                                                                (SCIO-) SCIOS NOVA INC.
                                                                                                                                                                                                                                                           27-JUL-1989;
                                                                                                                                                                                                                                                                              15-JUN-1993.
                                                                                                                                                                                                                                                                                               US5219739-A.
                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                      Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                         Human
                                                                                                                                                                                                                                                                                                                                                                                                                                         28-OCT-1993 (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                              R38921;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R38921 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The sequence of Q44259 contains an open reading frame corresponding to the 164 amino acid bovine vascular endothelial cell growth factor (bVEGF-164, i.e. R38920). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 120 amino acid bVEGF (see R38916).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 4 and Claim 1; Fig 6; 40pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 W
                                                                                                                                                                                JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 90.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 164 AA;
                                                                                                                                                                              Fiddes JC,
                                                                                                                                                                                                                    .90US-0559041.
                                                                                                                                                                                                                              89US-0387545
.89US-0450883
                                                                                                                                                                                                                                                        89US-0387545
                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                          /note= "inserted amino acid relative to 115..159
                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86.98;
                                                                                                                                                                                                                                                                                                           "replaced by Lys in hVEGF-121"
                                                                                English.
                                                                                                                                                                            Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 206; DB
Pred. No. 1.7e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A
                                                                                                                                                                            Tischer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 14;
..7e-15;
                                                                                                                                                                            EG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                DVEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences can be generated using PCR with human foetal vascular smooth muscle poly-A+ RNA as template.

SO

Sequence

165

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RESULT
W31085
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                                                                                                                                                                                                                                                                                                            02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
W31085-W31096 are vascular endothelial growth factor (VEGF) variants. Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.
                                                                                                                                                                          Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      substitution; drug screening; kinase domain binding FMS-like tyrosine kinase binding region; FLT-1; dritesting; vasculogenesis; anglogenesis; metastasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
Synthetic.
                                                                                                                                                   Claim
                                                                                                                                                                                                                           WPI; 1997-179270/16
                                                                                                                                                                                                                                                                Cunningham
                                                                                                                                                                                                                                                                                                                                                               23-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular endothelial growth factor variant used in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W31085
                                                                                                                                                                                                                                                                                      (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     / Match
Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard; Protein; 165
                                                                                                                                                                                                                                                               , 2g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                   -; 130pp;
                                                                                                                                                                                                                                                                                                              96US-0691791.
95US-0002827.
95US-0567200.
                                                                                                                                                                                                                                                                                                                                                               96WO-US13621
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note- "wild-type Glu 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note- "wild-type Asp replaced
64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                               Ferrara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                       /note-
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90.98;
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                                                                                                                                                   English
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Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  kinase domain binding region; KDR ing region; FLT-1; drug screening;
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1.7e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             variant; mutant;
                                                                                                                                                                                                                                                              Nguyen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        γd
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ala"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   drug screening
                                                                                                                                                                                      to identify with respect
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KDR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.
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RANGOLD RANGOL
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Best Local
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25-AUG-1995;
05-DEC-1995;
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from
W31085-W31096 are vascular endothelial growth factor (VEGF) variants Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FIJP-1). All indicated residues are preferably replaced with alanne. TWE variants may be used in an assay for identifying candidate compositions having agonistic antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants
                                                                                                                                                                                                                                                                  Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
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Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                substitution; drug screening; kinase domain binding region; KDI FMS-like tyrosine kinase binding region; FLT-1; drug screening
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W31086 standard; Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                    WPI; 1997-179270/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Cunningham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-MAR-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vascular endothelial growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9708313-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          testing; vasculogenesis; angiogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 ERRKHLEV----QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
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                                                                                                                                                                                                                     6; Page -: 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vascular endothelial growth factor; variant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                          ВC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165
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95US-0002827.
95US-0567200.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86.98;
90.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "wild-type His
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "wild-type Arg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "wild-type Lys
                                                                                                                                                                                                                                                                                                                                                                                                                                          z
                                                                                                                                                                                                                                                                                                                                                                                                                                          Keyt B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  factor variant used in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
Pred.
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No. 1.7e-15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Nguyen
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Query Match 86.9
Best Local Similarity 90.9
Matches 40; Conservative
                                                                                                                         02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
                       Vascular endothelial cell growth factor vari
candidates having agonistic or antagonistic
to KDR and/or FLT receptor binding
        Claim 6; Page -;
                                                             WPI; 1997-179270/16
                                                                                Cunningham BC, Wells JA;
                                                                                                      (GETH ) GENENTECH INC.
                                                                                                                                                             23-AUG-1996;
                                                                                                                                                                              06-MAR-1997.
                                                                                                                                                                                              W09708313-A1
                                                                                                                                                                                                                      Misc-difference
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Misc-difference 82
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Misc-difference 67
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                                                                                                                                                                                                                                                                                                                                                                  substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou
                                                                                                                                                                                                                                                                                                                                                                 neoplasia.
                                                                                                                                                                                                                                                                                                                                                                                                                  Vascular endothelial growth
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B. This sequence is
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165 AA;
                                                                                                                        96US-0691791.
95US-0002827.
95US-0567200.
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                                                                                                                                                                                                                    /note=
                                                                                                                                                           96WO-US13621
                                                                                     Ferrara N,
                                                                                                                                                                                                                                                                                                                                                                                            endothelial growth factor; variant;
       130pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein;
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Pred. No. 1.7e-15;
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C Especially preferred modifications comprise mutations in the kinase domain binding region (RDR) or the FMS-like tyrosine kinase binding region (FUT-1). All indicated residues are preferably replaced with calanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties of with respect to KDR and/or FLT receptor binding, by measuring the ceffect the candidate has on the binding properties of the variants of the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis cuseful for treating indications where vasculogenesis or angiogenesis of the desired for treatment of an underlying disease state.

CC N.B. This sequence is not given in the specification, it was created the content of the con
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Best Local :
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                                                                                                                                                                                                           02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
Vascular endothelial cell growth factor varicandidates having agonistic or antagonistic
                                                                WPI; 1997-179270/16.
                                                                                                          Cunningham BC, Wells JA;
                                                                                                                                                                                                                                                                                            23-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                         WO9708313-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                     Misc-difference 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     substitution; drug screening; kinase domain binding region; KDR;
FMS-like tyrosine kinase binding region; FLT-1; drug screening;
testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vascular endothelial growth factor; variant; itution; drug screening; kinase domain binding
                                                                                                                                                                    GENENTECH: INC.
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40; Conserv
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ilarity 90.9%;
Conservative
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                                                                                                             Ferrara
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Pred. No. 1.7e-15;
0; Mismatches 0;
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factor variant - used stagonistic properties

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                                                                                         02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
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N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                                                                                                                                                                                           substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; Festing; vasculogenesis; angiogenesis; metastasis; cancer; tumou
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WPI; 1997-179270/16.
                                       Cunningham BC,
                                                                                                                                           23-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                    VEGF; vascular endothelial growth factor; variant; mutant;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W31085-W31096 are vascular endothelial growth factor (VEGF) variants
                                                                (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr
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95US-0002827.
95US-0567200.
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                                                                                                                                           96WO-US13621
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                                                                                                                                                                                                                                                           /note- "wild-type Phe replaced by 43
                                        Ferrara
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Pred. No. 1.7e-15;
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N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
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Best Local Similarity
Matches 40; Conserv
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Misc-difference: 83
                                                                                                                                                                                                                                                                                         /note=
Misc-difference 64
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                                                                                                06-MAR-1997.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening;
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                                                                                                                                                                                                                                           "wild-type Gln
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 206; DB 18;
Pred. No. 1.7e-15;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₿
                                                                                                                                                                                                Ile
                                                                                                                                                                                                                                                                                            Glu
                                                                                                                                                                                           replaced
                                                                                                                                                                                                                                         replaced
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                                                                                                                                                                                                                                                                                                                                         replaced
                                                                                                                                                                                                                                                                                            replaced
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                                                                                                                                                                                                                                                                                                                                                                                       by Ala
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                                                                                                                                                                                                                                                                                         Ala"
                                                                                                                                                                                                                                                                                                                                            Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                            Ala"
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RESULT 10
W31091
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C Especially preferred modifications comprise mutations in the kinase of domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FUT-1). All indicated residues are preferably replaced with a lanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FUT receptor binding, by measuring the ceffect the candidate has on the binding properties of the variants to the KDR and/or FUT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis of is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local :
           06-MAR-1997.
                                  W09708313-A1
                                                                           Misc-difference
                                                                                                        Misc-difference
                                                                                                                                 Misc-difference
                                                                                                                                                                                                                      substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                               VEGF; vascular endothelial growth factor; variant; mutant;
                                                                                                                                                                                                                                                                                          Vascular endothelial growth factor variant used in
                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                              W31091 standard;
                                                                                                                                                                                                                                                                                                                            16-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 18; Page -; 130pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1997-179270/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cunningham BC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTGRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                          errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                            /note= "wild-type Glu replaced by Ala" 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA.
                                                                                                      /note= "wild-type Ile replaced
64
                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95US-0002827
95US-0567200
                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                             Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ferrara N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86.9%;
90.9%;
                                                       "wild-type Ile replaced by Ala
                                                                                                                                                                                                                                                                                                                                                                              165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 206; DB
Pred. No. 1.7e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Keyt B,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 18;
.7e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nguyen
                                                                                                               Уď
                                                                                                               Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 165;
                                                                                                                                                                                                                                                                                          drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                          screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              to identify with respect
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C Especially preferred modifications comprise mutations in the kinase companies of the property of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
W09708313-A1
                                                                                                                                                                                                                                                                                            VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region FMS-like tyrosine kinase binding region; FLT-1; drug screentesting; vasculogenesis; angiogenesis; metastasis; cancer;
                                                               Misc-difference
                                                                                                        Misc-difference
                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                 Homo sapiens.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                   Vascular endothelial growth factor variant used in drug screening
                                                                                                                                                                                                                                                                                 neoplasia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-JAN-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   W31092;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W31092 standard; Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 22; Page -; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cunningham BC, Wells JA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (GETH ) GENENTEÇH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 ERRKHLFY---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1997-179270/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                        /note=
                                                                                                        /hote=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĀĄ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95US-0691791.
95US-0002827.
95US-0567200.
                                                                                                                                                 Location/Qualifiers
                               /note= "wild-type Gln replaced by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96WO-US13621
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90.9%;
                                                                           "wild-type Ile replaced
                                                                                                                      "wild-type Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 206; DB 18;
Pred. No. 1.7e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
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                                                                                                                      replaced
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nguyen
                                                                        by Ala"
                                                                                                                    by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
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                                                                                                                                                                                                                                                                                                                                          region;
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                                                                                                                                                                                                                                                                                                                                    RESULT 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     w31085-w31096 are vascular endothelial growth factor (VEGF) variants Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FUT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FIT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FIT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
                                                                                             Synthetic
                                                                                                                                               substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou
                                                                                                                                                                                           VEGF; vascular endothelial growth factor; variant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 24; Page -; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cunningham BC,
Misc-difference
                        Misc-difference
                                                                                                          Homo sapiens
                                                                                                                                                                                                                    Vascular endothelial growth factor variant used in drug screening
                                                                                                                                                                                                                                                  16-JAN-1998
                                                                                                                                                                                                                                                                                                        W31093 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1997-179270/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-MAR-1997
                                                     Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               is desired for treatment of an underlying disease state. N.B. This sequence is not given in the specification, it from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                                                         2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                            errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        165
                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                 (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96US-0691791.
95US-0002827.
95US-0567200.
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/note=
79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96WO-US13621
                        /note- "wild-type Ile replaced by Ala" 46
                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ferrara
                                                                                                                                                                                                                                                                                                        Protein; 165
                                                                                                                                                                                                                                                 entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                               90.9%;
          "wild-type Ile replaced by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            z
                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Keyt B,
                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 206; DB 18; Pred. No. 1.7e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                            mutant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              it was
                                                                                                                                                    tumour
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Key

Location/Qualifiers

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RESULT
W31094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 40
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25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FLT-1): All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                 VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FIT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cunningham BC, Ferrara Wells JA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9708313-A1
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Synthetic
                                                                                                                                                                                            Vascular endothelial growth
                                                                                                                                                                                                                                         16-JAN-1998
                                                                                                                                                                                                                                                                                    W31094;
                                                                                                                                                                                                                                                                                                                               W31094 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          w31085-w31096 are vascular endothelial growth factor (VEGF) variants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 26; Page -; 130pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1997-179270/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-AUG-1996;
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                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                122 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                        13
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        165 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                         (first entry)
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95US-0002827.
.95US-0567200.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "wild-type Ile replaced by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "wild-type Gln replaced
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         English.
                                                                                                                                                                                                                                                                                                                               165
                                                                                                                                                                                              factor variant used
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 206; DB 18;
Pred. No. 1.7e-15;
0; Mismatches 0
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                                                                                                                                                                                              in drug screening.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 165;
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RESULT 14
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Best Local
                                                   VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou.
                                                                                                                                                                                                                                                                                                                                                                                                            Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
            Synthetic.
                                                                                                                       Vascular endothelial growth factor variant used
                                                                                                                                                                                   W31095
                      Homo sapiens
                                                 neopiasia.
                                                                                                                                                         16-JAN-1998
                                                                                                                                                                                                        W31095 standard; Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W31085-W31096 are vascular endothelial growth factor (VEGF) variants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 28; Page -; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI;
                                                                                                                                                                                                                                                                            122
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GETH ) GENENTECH INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                 2 ERRKHLEV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                           1997-179270/16.
                                                                                                                                                                                                                                                                                                                              40;
                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                              165
                                                                                                                                                                                                                                                                                                                            Conservative
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95US-0002827.
95US-0567200.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "wild-type Glu replaced by Ala"
                                                                                                                                                      entry)
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                                                                                                                                                                                                                                                                                                                      Score 206; DB 18;
Pred. No. 1.7e-15;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                 Length 165;
                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                      drug screening.
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                                                                                                                                                                                                                                                                                                                                             RESULT 15
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Best Local S
Matches 40
VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculgenesis; angiogenesis; metastasis; cancer; tumo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W31085-W31096 are vascular endothelial growth factor (VEGF) variants. Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.
                                                                                                                        Vascular endothelial growth factor variant used
                                                                                                                                                                                                                                                                                  W31096 standard; Protein; 165 AA
                                                                                                                                                                                         16-JAN-1998
                                                                                                                                                                                                                                            W31096;
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25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N.B. This sequence is not given in the specification, it from a claimed specified mutant of wild-type mature VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vascular endothélial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                     122 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 30; Page ; 130pp;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (GETH ) GENENTEÇH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9708313-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                   2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               165 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                    (first
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95US-0002827.
95US-0567200.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "wild-type Phe replaced by Ala"
46
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                                                                                                                                                                                 entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86.9%;
90.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 206;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Keyt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 18;
.7e-15;
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                                                                                                                           in drug
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KDR;

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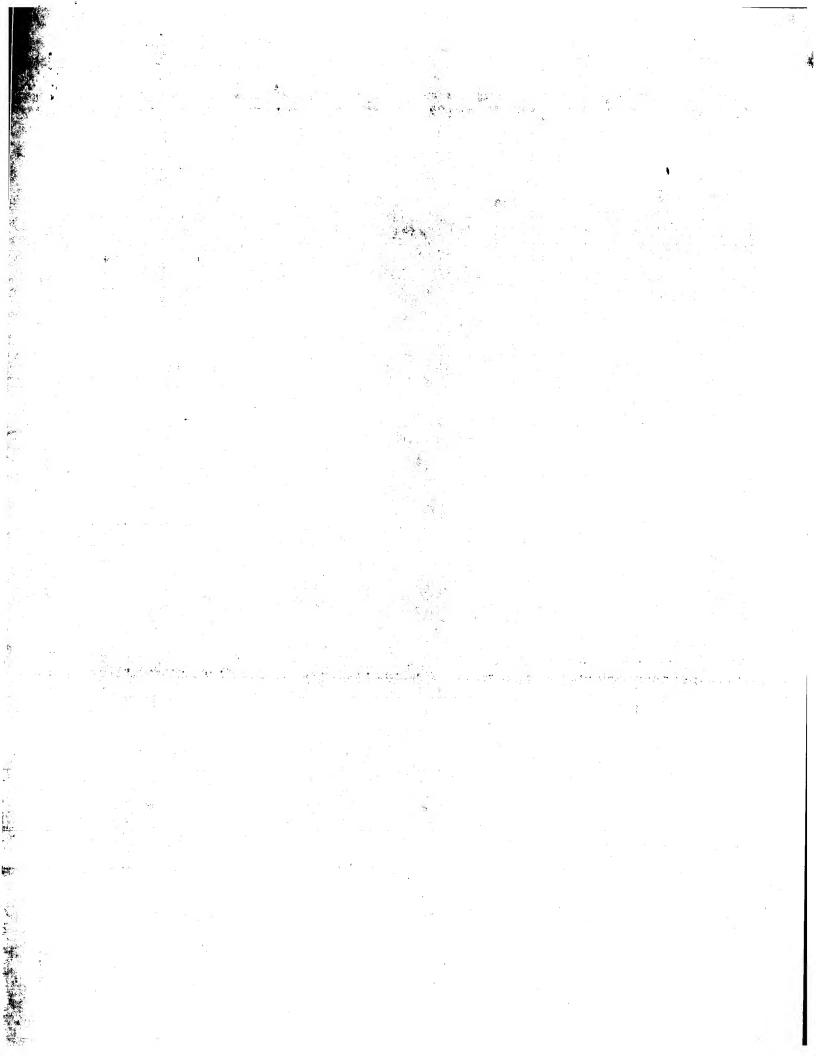
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Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (KDR) or the FMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                    Query Match 86.9%;
Best Local Similarity 90.9%;
Matches 40; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "wild-type Ile replaced by Ala" Misc-difference 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "wild-type Ile replaced by Ala" Misc-difference 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1997-179270/16.
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Synthetic.
                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 31; Page ~; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-AUG-1996;
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165 AA;
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95US-0002827.
95US-0567200.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ferrara N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "wild-type Ile replaced by Ala"
                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Keyt B,
                                                                                                      Score 206; DB 18;
Pred. No. 1.7e-15;
                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Li B,
                                                                                                                               DB 18; Length 165;
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Search completed: November 9, Job time: 104 sec

2000, 15:30:39

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Minimum
Maximum
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM protein -
   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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length: 2000000000
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Query
Match
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1: /cgn2_6/ptodata/2/laa/5A_COMB.pep:*

2: /cgn2_6/ptodata/2/laa/5B_COMB.pep:*

3: /cgn2_6/ptodata/2/laa/6_COMB.pep:*

4: /cgn2_6/ptodata/2/laa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/2/laa/backfiles1.pep:*
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237
   164575 segs, 16761186 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BLOSUM62
Gapop 10.0 ,
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    Length
  BB
                                    44200000000044444
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 US-08-469-427A-15
US-08-563-200A-2
US-08-567-200A-2
US-08-601-794-2
US-08-601-794-2
US-08-601-794-2
US-08-601-792B-3
US-08-601-10
US-08-992B-1
US-08-992B-1
US-08-992B-4
US-08-992B-4
US-08-992B-4
US-08-992B-7
US-08-807-992B-7
US-08-807-992B-7
US-08-807-992B-13
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5219739-17
5219739-18
5219739-18
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Compugen Ltd
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Sequence 15, Appl
Sequence 20, Appl
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Patent No. 5332671
Patent No. 5240848
Sequence 3, Appli
Patent No. 5219739
Patent No. 5240848
Sequence 10, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 29, Appli
Sequence 29, Appli
Sequence 29, Appli
Sequence 13, Appli
Sequence 13, Appli
Sequence 13, Appli
Sequence 16, Appli
Sequence 17, Appli
Sequence 18, Appli
Sequence 3, Appli
                                                                                                                                                                                                     Patent No. 5194596
Patent No. 5219739
Patent No. 5219739
Patent No. 5194596
Patent No. 5219739
                                                                                                                                                                                                                                                          Description
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RESULT 2 5219739-17	Query Match 86.9%; Score 206; DB 5; Length 164; Best Local Similarity 90.9%; Pred. No. 5.7e-17; Matches 40; Conservative 0; Mismatches 0; Indels 4; Qy 2 ERRKHLFVQTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41	RESULT 1 5194596-17 ;Patent NO. 5194596 ; Patent NO. 5194596 ; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN ;C.,MITCHELL, RICHARD L. ;C.,MITCHELL, RICHARD	ALIGNMENTS	29 85 35.9 55 2 US-08-569-063C-3 Sequence 31 85 35.9 188 2 US-08-609-443B-5 Sequence 32 85 35.9 188 2 US-08-609-443B-5 Sequence 32 85 35.9 188 2 US-08-609-443B-5 Sequence 32 85 35.9 188 2 US-08-609-443B-7 Sequence 32 85 35.9 195 1 US-08-469-427A-7 Sequence 32 85 35.9 195 2 US-08-609-443B-7 Sequence 33 81 81 81 1 US-08-569-063C-7 Sequence 34 31.2 350 2 US-08-609-443B-11 Sequence 39 74 31.2 350 2 US-08-699-811-4 Sequence 40 74 31.2 350 2 US-08-699-62 Sequence 41 74 31.2 350 2 US-08-999-811-2 Sequence 42 74 31.2 350 2 US-08-999-811-2 Sequence 43 74 31.2 419 3 US-09-042-105-2 Sequence 44 74 31.2 419 3 US-09-042-105-2 Sequence 57 31.2 419 4 PCT-US96-09001-2 Sequence 57 31.2 419 4 PCT-US96-09001-2 Sequence 57 31.2 419 4 PCT-US96-09001-2
121	*· *-	TT JOHN		quence 3, quence 5, quence 5, quence 7, quence 7, quence 11, quence 11, quence 11, quence 12, quence 2,
	Gaps			Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli Appli

Query Match

86.98;

Score

206;

DB 5;

Length 164;

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RESULT 4
5194596-18
; PATEENT NO. 5194596
; PAPPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
RESULT 5
5219739 19
;Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
;JOHN C.;MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND
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5194596-18
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5219739-18
; PATEOR NO. 5219739
; PATEOR NO. 5219739
; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOYINE AND HUMAN ;VAASCULAR ENDOTHELLAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF 120 AND HYEGF: 40
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                                                                                                                                                                                                                                  Query Match
Best Local !
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Best Local :
                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/45
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/(FILING DATE: 27-JUL-1990 PRIOR APPLICATION DATA:
                                                                                                                                     122 ERRKHLFYQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 164
                                                                                                                                                                                                                               Local Similarity
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                                                                                                                                                          2 ERRKHLEV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity 90.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 ERRKHLEV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 164
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                                                                                                                                                                                                               Conservative
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90.98;
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                                                                                                                                                                                                          Score 206; DB 5;
Pred. No. 5.8e-17;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
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; : MOLECULE TYPE: `protein
US-08-469-427A-15
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FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN ;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
                                                                                                               TELEFAX: (202): 628-884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 15, Application US/08469427A Patent No. 5607918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Eriksson, Ulf
APPLICANT: Olofsson, Birgitta
APPLICANT: Alitalo, Kari
APPLICANT: Pajusola, Katri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC COMPUTER: COMPUTER: OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATE: US/08/469,427A PTLING DATE: 06-JUN-1995
                                                                                                                                                                 REGISTRATION NUMBER: 411
TELECOMMUNICATION INFORMATION: (202) 628-8800
                                                                                                                                                                                                                                                                CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
ATTORNEY/ACENT INFORMATION:
NUMBER OF THE PRIOR OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Pajusola, Katri
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
TITLE OF INVENTION: DNA CODING THEREFOR
NUMBER OF SEQUENCES: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/07/559,041 FILING DATE: 27-JUL-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Clii.
STATE: LC
TTD: 20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 165
                                    STRANDEDNESS: sintopology: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 1200 g C. CITY: Washington
                                                                                                                                                                                                                              NAME: Evans, Joseph D
REGISTRATION NUMBER:
                                                                                               ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 165
                                                                        amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similar:ty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: Evenson, McKeown, Edwards & 1200 G Street, N.W., Suite 700
                                                                                          189 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                    single
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Pred. No. 5.8e-17;
0; Mismatches 0
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2,

Query Match

86.98;

Score 206;

DB 1;

Length 189;

Best Local Similarity

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5332671-3
; Patent No. 5332671
; PAPPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; APPLICANT: FERRARA, PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR AND DNA ENCODING SAME
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                                                                                        RESULT
                                                                                                                                                                                                                              Best
                                                                                                                                                                                                                                              Query Match
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                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (202) 628-8844
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: EVANS, JOSEPH D
REGISTRATION NUMBER: 26,269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/469,427

FILING DATE: 06-UN-1995

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/397,651

FILING DATE: 01-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 1064/41979CP3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8800
                                                                                                                                                                                                                                                                                                                 TOPOLOGY: 1 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND TITLE OF INVENTION: DNA CODING THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: PAJUSOLA, Katri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: OLOFSSON, Birgitta
APPLICANT: ALITALO, Kari
                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            146 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 189
                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE: 06-DE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: U
ZIP: 20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                             l Similarity
40; Conserv
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                                                                                                                                                                                                                                                                                                                                                                   amino acid
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                                                                                                                                                                                                                                                                                                                                                                                  190 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
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                                                                                                                                                                                                                            90.98;
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                                                                                                                                                                                                            Score 206; DB 2;
Pred. No. 6.6e-17;
0; Mismatches 0;
                                                                                                                                                                                                                                            Length 190;
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; MOLECULE TYPE: protein US-08-567-200A-2
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 Matches
                  Query Match
Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                         CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 388-3249
                                                                                                                                                                                          TELEFAX: (415) 398-32
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TXPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/07/389,722 FILING DATE: 04-AUG-1989 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 15
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Variants of Vascular Endothelial Cell TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their TITLE OF INVENTION: Production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     147 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: Four Embarca
CITY: San Francisco
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FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: FILING DATE: 05-DE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41

    Application US/08567200A
    6020473

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                    Similarity
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7: United States
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Conservative
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Ferrara, Napoleone
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                    90.9%;
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 0;
                  Score 206; DB 3;
Pred. No. 6.6e-17;
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Pred. No. 6.6e-17
0; Mismatches (
 Mismatches
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2 ERRKHLFV----QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41

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                                                                                                                                                                                                                          Sequence 2,
                                                                                                                                                                                                              Patent No.
                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                               GENERAL INFORMATION: APPLICANT: Keyt,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                     TITLE OF INVENTION:
TITLE OF INVENTION:
                        CORRESPONDENCE ADDRESS:
                                       NUMBER OF SEQUENCES:
                                                                                                    APPLICANT:
                                                                                                                   APPLICANT:
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                                                                                                                                                  APPLICANT:
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TELECOMMUNICATION INFORMATION:
TELECHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING SYSTEM: MS DOS
SOFTWARE: WORDERFECT VERSION 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                 148 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Dvorak,
TITLE OF INVENTION:
TITLE OF INVENTION:
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         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
CLASSIFICATION: 424
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
                                                                                                                                                                                                                                                                                                                  2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
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                                                                                                                                                                                                                                                                                                                                                                 1 Similarity 90.9
                                                                                                                                                                                                             , Application US/08691794 6057428
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                                                                                                                Nguyen, Francis H. Ferrara, Napoleone Cunningham, Brian C. Wells, James A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       191 amino acids
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                                                                                                Li, Bing
                                                                                                                                                                              Keyt, Bruce A.
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Flehr, Hohbach, Test, Albritton & Herbert
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O. Box 5387
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                                                    Growth Factor, Production
                                                               Variants of Vascular Endothelial Cell Growth Factor, Their Uses, and Proces
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Harold F
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vessel
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Pred. No. 6.6e-17;
Pred. No. 6.6e-17;
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                                                               and Processes
                                                                                                                                                                                                                                                                                                                                                                                        Length 191;
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148

ERRKHLFVQDFQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 191

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5332671-4
; Patent No. 5332671
; PAPPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; APPLICANT: FERRARA, PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                            ; LENGTH: 191
5332671-4
                                                                                                                                                     FILING DATE: 21-JUN-1989

APPLICATION NUMBER: 351,117

FILING DATE: 12-MAY-1989

SEQ ID NO:4:
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; MOLECULE TYPE:
US-08-691-794-2
                                                                                                                                                                                                                                                                                 GROWTH FACTOR AND DNA ENCODING NUMBER OF SEQUENCES: 15
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
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Best Local S
Matches 40
                                                   Matches
                                                                               Query Match
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TELEFAX: (415) 398-324
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 60, FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08, FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US
FILING DATE: 02-AUG-19
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                        FILING DATE: 04-AUG-1989 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
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TELECOMMUNICATION INFORMATION:
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CURRENT APPLICATION DATA:
                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                        148 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 191
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2 ERRKHLEV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : 191 amino acids
amino acid
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San Francisco
Califórnia
                                                 Conservative
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SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (415) 781-1989
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.02-AUG-1996
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                                                              86.9%;
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                                                           Score 206; DB 5;
Pred. No. 6.6e-17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A-63758/WHD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 206; DB 3;
Pred. No. 6.6e-17;
D; Mismatches (
                                              Mismatches
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                                                                          Length 191;
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                                            Indels
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                                         Gaps
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RESULT 13
5240848-11
5240848-1
; Patent No. 5240848
; Patent No. 5200848
; Patent Application Data:
    Application Number: US/07/337,037
; PILING DATE: 10-JUL-1989
; PRIOR APPLICATION NUMBER: 274,061
; APPLICATION DATA:
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TOPOLOGY: US-08-807-992B-3
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US-08-807-992B-3
                                                                                             NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-
TELECOMMUNICATION INFORMATION:
TELECHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: DVOTAK,
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                     COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WOTGPERFECT VERSION 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,9921
FILING DATE: MARCH 3, 1997
                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                      CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               171 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 214
                                     STRANDEDNESS:
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Magnolia
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                                                                            215 amino acids
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D. Box 5387
                                   single
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Harold F
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                                                                                                                                                                                                                                                                                                  US/08/807,992B
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Pred. No. 7.
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Query Match

86.98;

Score 206;

DB 3;

Length 215;

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RESULT 15
5219739 ...
;Patent No. 5219739 ...
;Patent TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
JOHN C.;MITCHELL, RICHARD L.
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Search completed: November Job time: 243 sec
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                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF NUMBER OF SEQUENCES: 40
                                                                                                                                                                                                                                                      FILING DATE: 27-JUL-1989
SEQ ID NO:22:
LENGTH: 215
                                                                                                                                                                     Query Match
Best Local S
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Matches 40; Conserve
                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
                                                                               172 ERRKHLFVODPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 215
                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
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90.9%;
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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A_Geneseq_36:*

1: /SIDS1/gcgda*

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114
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

12	11	10	9	80	7	6	· UI	4	ω	2	· -	Result	
101	101	101	101	101	101	105	105	105	105	105	105	Score	
88.6	88.6	88.6	88.6	88.6	88.6	92.1	92.1	92.1	92.1	92.1	92.1	Query Match Length	•
190	190	146	146	146	146	190	190	190	190	141	133	Length	
13	11	21	19	13	13	17	17	17	17	20	17	DB	
R22347	R08120	Y57029	W53640	R27354	R22348	W03042	W03040	W03039	W03038	Y24316	W03041	Ħ	
Rat Vascular Endot	Mammalian glioma-d	VEGFA 146 amino ac	Vascular endotheli	Sequence of vascul	Alternative form o	Mutant vascular en	Mutant vascular en	Mutant vascular en	Mutant vascular en	Mouse vascular end	Mutant vascular en	Description	

New receptor protein tyrosine kinase assays - used to identify inhibitors or activators which can be used in therapy involving angiogenesis or vascular permeability

101 88.6 190 13 R27350 101 88.6 190 13 R27351 101 88.6 190 13 R27351 101 88.6 190 13 R27352 101 88.6 190 19 W33639 101 88.6 190 19 W33643 101 88.6 190 19 W33643 101 88.6 190 20 Y33441 101 88.6 190 21 Y57028 101 88.6 214 13 R27355 102 103 R27355 103 R27355 104 R38917 105 R38917 107 R38917 108 R38918 109 R3891	45	44	43	42	41	40	39	38	37	36	3 5	34	33	32	ω	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13
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					VEGE	VEGE	peptide use	pig VEGF	pig	pig VEGF	pig VPF	Vascular permeabi	vascular	VEGF-164	vascular	VEGF-120	Bovine vascular e	Recombinant-deriv	Folliculo stellat	N-terminal portic	Parapox virus VEG	VEGFA 214 amino a	endothel	Sequence of vascu	Alternative form		Parapox virus VEG	۲	н	r endothel	of.	of.	of.

ALIGNMENTS

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RESULT
W03041
ID W03
                                                                                                                                                                                             Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; angiogenesis; tumour therapy; wound healing; vascular endothelial growth factor;
                                                                                                                                                                                                                                         Mutant vascular endothelial growth factor (truncated protein).
                                                                                                                                                                                                                                                                                     W03041;
                                                                                                                                                                                                                                                                                                         W03041 standard; protein; 133 AA.
WPI; 1996-321945/32.
                     Stacker SA, Wilks AF;
                                                                23-DEC-1994;
23-DEC-1994;
                                                                                                                     04-JUL-1996.
                                                                                                                                           WO9620403-A1.
                                                                                                                                                                Mus musculus.
                                                                                                                                                                                                                                                               11-FEB-1997 (first entry)
                                                                                                22-DEC-1995;
                                                                                                                                                                                     neuroepithelial tyrosine kinase.
                                          (LUDW-) LUDWIG INST CANCER RES
                                                                94AU-0000301.
94AU-0000300.
                                                                                                95WO-US16753.
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RESULT
Y24316
                                          Query Match
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Matches 20
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Best Local Similarity
                                                                                            Sequence
                                                                                                             The present sequence represents factor designated VEGF115.
                                                                                                                                              Claim
                                                                                                                                                                Vascular endothelial growth factor -
                                                                                                                                                                                      N-PSDB; X88959.
                                                                                                                                                                                             WPI; 1999-422621/36.
                                                                                                                                                                                                                                                                   11-DEC-1997;
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                                                                                                                                                                                                                (AGEN ) AGENCY OF IND SCI & TECHNOLOGY (TOAG ) TOA GOSEI CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                  Mouse;
                                                                                                                                                                                                                                                                                                                                                                  Mouse vascular endothelial growth factor 115
                                                                                                                                                                                                                                                                                                                                                                                                                                Y24316 standard;
                                                                                                                                                                                                                                                                                                                                                                                           16-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing anglogenesis e.g in tumour therapy; or the assays can be used to identify activators of receptor tyrosine kinases which can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing. This mutant vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim
  27
          1 APTTEGEQKSHEVIKEMDVY 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a truncated protein. It is a receptor agonist.
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apttegeqkshevikfmdvy
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                                                                                                                                                                                                                                                                                                                                             vascular endothelial growth factor; VEGF115.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20;
                                                   Similarity
                                                                                                                                             Page 8;
                                                                                           141
                                     92.1%; Solitarity 100.0%; For Conservative 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           133 AA;
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                                                                                                                                          16pp; Japanese
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                                                                                                                                                                                                                                                                                                                                                                                       entry)
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                                              Score 105; DB 20;
Pred. No. 2.2e-10;
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                                                                                                                    mouse vascular endothelial growth
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                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 20
Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; angiogenesis; tumour thera; wound healing; vascular endothelial growth factor; neuroepithelial tyrosine kinase.
                                                                  Mutant
                                                                                                                                                                                                                                                                                                                                Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g. in tumour therapy; or the assays can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing. This mutant vascular endothelial growth factor comprises a K73S substitution and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
                                                                                         11-FEB-1997
                                                                                                                   W03039;
                                                                                                                                        W03039 standard; protein; 190
                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 33; Page 49-50; 78pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New receptor protein tyrosine kinase assays -inhibitors or activators which can be used in angiogenesis or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-DEC-1994;
23-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stacker SA, Wilks AF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-DEC-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           activator; vas wound healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              neuroepithelial tyrosine kinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Receptor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mutant vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-FEB-1997 (first entry)
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                                                                                                                                                                                                                                                                 Local Similarity
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                                                                                                                                                                                                    apttegeqkshevikfmdvy 46
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                                                             vascular endothelial growth
                                                                                                                                                                                                                                                                                                                190 AA;
                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vascular
                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in tyrosine kinase; assay; screening; agonist; cular permeability; angiogenesis; tumour therapy; vascular endothelial growth factor;
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94AU-0000300.
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                                                                                                                                                                                                                                                                Score 105;
Pred. No.
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                                                              factor.
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3e-10;
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Matches 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New receptor protein tyrosine kinase assays inhibitors or activators which can be used angiogenesis or vascular permeability
                                                                                                                   Mus musculus
                                                                                                                                                   Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; angiogenesis; tumour thera wound healing; vascular endothelial growth factor;
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           23-DEC-1994;
23-DEC-1994;
                                                                      04-JUL-1996
                                                                                           WO9620403-A1
                                                                                                                                         neuroepithelial
                                                                                                                                                                                                     Mutant vascular endothelial growth factor
                                                                                                                                                                                                                                                                            W03040 standard; Protein; 190 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-DEC-1994;
23-DEC-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                              22-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (LUDW-) LUDWIG INST CANCER RES
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                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Page 50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 190 AA;
                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wilks AF;
                                                                                                                                                                                                                            (first entry)
        94AU-0000301.
94AU-0000300.
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94AU-0000300.
                                              95WO-US16753.
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                                                                                                                                          tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78pp; English.
                                                                                                                                                                                                                                                                                                                                                                                    92.1%; Score 105; DI
100.0%; Pred. No. 3e:
Live 0; Mismatches
                                                                                                                                           kinase.
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3e-10;
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in therapy
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g in tumour therapy; or the assays can be used to induce vascular permeability or to can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing. This mutant vascular endothelial growth factor comprises a G117V substitution and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
                                                                                                                                                                                                                                                                                   "(LODM-) LODWIG
                      Claim 33; Page 52-53; 78pp; English
                                                                    New receptor protein tyrosine kinase assays - inhibitors or activators which can be used in angiogenesis or vascular permeability
                                                                                                                                                                                                                                                                                                                                          23-DEC-1994;
23-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; anglogenesis; tumour therapy; wound healing; vascular endothelial growth factor; neuroepithelial tyrosine kinase.
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                                                                                                                                                                                                                                    Stacker SA,
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                                                                                                                                                                                WPI; 1996-321945/32.
                                                                                                                                                                                                                                                                                                                                                                                                                        22-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mutant vascular endothelial growth factor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 APTTEGEOKSHEVIKFMDVY 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard; protein; 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                  Wilks AF;
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94AU-0000300
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100.0%; Pr
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Pred. No.
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                                                                                                used to identify
therapy involving
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Best Local
Multiple cDNAs encoding alternative forms of the VEGF A-subunit were amplified using PCR primers as in Q23049 and Q23050. Three sets of clones were identified. Clone #12 encoded the 164 amino acid secreted form of VEGF A-subunit (see R23347). Clone #14 has a 135 bp deletion and thus encodes a 120 amino acid form and Clone #16 has a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                               Example 9; Page 14 and Fig 4; 38pp; English.
                                                                                                                                                                                                            Vascular endothelial cell growth factor II - used as artificial blood vessels or to promote tissue repair
                                                                                                                                                                                                                                                                                                                              WPI; 1992-098641/13.
                                                                                                                                                                                                                                                                                                                                                                                      Bayne ML,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-SEP-1990;
21-SEP-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                               (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-MAR-1992.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rat glioma cell; GS-9L; conditioned medium; heterodimer; VEGF-II; homodimer; mitogenesis; vascular repair; blood vessel implant; polymerase chain reaction; alternative splicing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alternative form of VEGF mature A-subunit with 120 amino acids.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g in tumour therapy; or the assays can be used to identify activators of receptor tyrosine kinases which can be used to induce vascular permeability or to enhance anylogenic activity, comprises the following substitutions: K109R, P110S, H111G, O112D, S113R, O114P and H115S. It was designated VEGFO and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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90US-0586638
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= VEGF_A-subunit
/note= "120 amino acida
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                                                                                                                                                                                                                                                                                                                                                                            Thomas
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                                                                                                                                                                                                                                                                                                                                                                              ΚĄ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 105;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 17;
3e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 190;
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The full length coding region of the A subunit or monomer of VEGF coligo. Primers hased on the amino acid sequences of vertage coligo. Primers hased on the amino acid sequences of the-Met-Asp-Vel-Tyr-Gln from polypeptide T38 (residues 14-47) and colored 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
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Best Local s
Matches 18
                                                                                                                                                                                                                                                                                                                                                      Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                            and growth.
                                                                                                                                                                                                                                                                                                                                                                                                     Vascular endothelial cell growth factor sub-units - vascular endothelial cell growth, used for inducing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1992-325745/40
N-PSDB; Q28953.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bayne ML,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-MAR-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vascular endothelial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  72bp insertion and encodes a 188 amino acid mature protein (R22351). The deleted region lies between the second base of the Asn140 codon and the third base of the Arg184 codon. The 120 amino acid mature protein has Asn140 converted to Lys140. See also Q23038-Q23059.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               apttegeqkahevvkfmdvy 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        development; mitogen; blood vessel; endothelial growth factor; neovascularisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
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                                                                                                                                                                                                                                                                                                                                                  Fig
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                                                                                                                                                                                                                                                                                                                                             4; 61pp; English.
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90.0%;
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Pred. No. 1
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Matches 18
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-AUG-1994;
21-SEP-1990;
05-JAN-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, and the deletion of His 141 to Arg 184 from the wild-type given in w53639. The present invention describes: (1) a mammalian VEGF II protein comprising an A subunit from w53639, w53640 or w53641, and a B subunit from w53638, w53639 or the first 115-135 amino acids of w53638; and (2) a mammalian VEGF comprising a heterodimer or homodimer of B subunits. The growth factor is used for promoting vascular development and repair and for promoting tissue repair.

N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page -; 46pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial cell growth factor; VEGF II; rat; glioma mitogenesis; blood vessel growth; artificial blood vessel.
                       Y57029 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B sub-units
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                                                                                                                                                                                                                                                                                                                                                                        Sequence
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                                                                                                                                                                                                 1 APTTEGEQKSHEVIKFMDVY 20
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                                                                                                                                                  apttegeqkahevvkfmdvy 46
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18; Conserv
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90US-0586638.
93US-0000834.
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                          146 AA
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Pred. No. 1.1e-09;
2; Mismatches 0;
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Pred. No. 1.1e-09;
2; Mismatches 0;
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                                                                                                                                                                                                                                                                                               Length 146;
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Best Local S
Matches 18
                                                                   EP399816-A.
                       28-NOV-1990.
                                                                                                                     Rattus
                                                                                                                                                                       Mitogenesis;
                                                                                                                                                                                                                                                                          24-FEB-1991
                                                                                                                                                                                                                                                                                                                                                                        R08120 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-MAR-1991;
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DB; 239827:
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                                                                                                                  rattus.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                146.AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bayne ML;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                       wound healing
                                                                                                                                                                                                                                                                          (first
                                                                                                                                                                                                                                                                                                                                                                        protein;
                                                                                                                                                                                                                                                                       entry)
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This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF C subunit amino acid sequence Y57025. VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or BC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEGF; vascular endothelial growth vascular development; artificial b
Mammalian glioma-derived growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig 3; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Purified and isolated vascular endothelial cell growth factor C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino acid residue subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·91US-0676436
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                           90.0%;
                                                                                                                                                                      190
                                                                                                                                                                                                                                                                                                                     46
                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 101; DB 21;
Pred. No. 1.1e-09;
                                                                                                                                                                         A
factor (GDGF) gene product.
                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          blood vessel; repair; human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor; A subunit; tissue growth;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             or
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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Bayne

ΜĽ

Conn GL,

CO INC

1990-356428/48

006741

30-MAR-1990; 24-MAY-1989; (MERI) MERCK &

23-MAY-1990;

mammalian stimulate

growth

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VEGF-I; mammalian glioma cell; conditioned medium;
homodimer; mitogenesis; VEGF-II; vascular repair;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GDGF stimulates mitogenesis and vascular endothelial cell growth, useful in promotigg wound healing or tissue growth. It allows vascular explants to be grown on a GDGF treated surface for implantation in a host. The sequence was isolated from the GS-9L rat cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 19; Fig 1; 19pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Glioma-derived growth factor - stimulates mitogenesis of mammalian endothelial cells and is used in vitro or in vivo
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ch 88.6%;
1 Similarity 90.0%;
18; Conservative
                                                                                                                                                                                                                                                                                                                            Endothelial Growth Factor A-subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90US-0500421.
89US-0356477.
                                                                                                    /label= T41
/note= "tryptic peptide"
49..81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90EP-0305637.
                                     /label= T18
/note= "tryptic
l27..132
                                                                     note= "tryptic"
| 135
                                                                                                                                         'note= "tryptic peptide"
                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                          'label= N-glycosylation
                                                                                                                                                                                             /label = mature_VEGF_A_monomer
                                                                                                                                                                                                                     /label≖ signal
                                                                                                                                                                                                                                                                                                                                                                                                 Protein; 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thomas
         "tryptic peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KΑ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 101; DB 11;
Pred. No. 1.5e-09;
2; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                Ą
                                           peptide"
                                                                           peptide'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                         heterodimer;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
      WPI; 199;
N-PSDB; (
The VEGF-I A-subunit was found to be identical to the VEGF-II A-subunit. The isolated A-monomer was treated with trypsin, CNBr, Lys C or V8 processe. The peptides resulting from the digestions
                                          Disclosure; Fig 4; 38pp; English.
                                                              Vascular endothelial cell growth factor II - used as coating artificial blood vessels or to promote tissue repair
                                                                                                                                     Bayne
                                                                                                                                                                              21-SEP-1990;
21-SEP-1990;
                                                                                                                                                       (MERI ) MERCK & CO INC.
                                                                                                                                                                                                             18-SEP-1991;
                                                                                                                                                                                                                                     25-MAR-1992
                                                                                                                                                                                                                                                         EP476983-A.
                                                                                                                                                                                                                                                                                                    Peptide
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                                                                                                  1992-098641/13.
DB; Q23038.
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                                                                                                                                Conn
                                                                                                                                                                             90US-0586640
90US-0586638
                                                                                                                                                                                                            91EP-0308489
                                                                                                                                  GL,
                                                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                                                                                  /note= "Leu C
27..43
                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "Leu C
42..133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "V8
36..41
                                                                                                                                                                                                                                                                                         /label= CB18-19
                                                                                                                                                                                                                                                                                                           /label= CB26
/note= "Cyanogen
                                                                                                                                                                                                                                                                                                                                                                   /note= "Leu C
173..190
                                                                                                                                                                                                                                                                                                                                                                                                  /note= "1
134..150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "tryptic peptide" 175..184
                                                                                                                                                                                                                                                                                                                                                       'label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "V8 Protease
178..190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= T32
                                                                                                                                                                                                                                                                                                                                                                                         ′label=
                                                                                                                                                                                                                                                                                                                                                                                                                        'label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= L12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= V21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= V18B
/note= "V8 Protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label= V30
/note= "V8 Protease cleavage peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= V11A
/note= "V8 Protease cleavage peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= T22
/note= "tryptic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                136..150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= V18A
/note= "V8 Protease cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'note= "V8 Protease cleavage peptide'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'label= V40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "tryptic peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'label = T38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                151..170
                                                                                                                                                                                                                                                                                                    . . 119
                                                                                                                                  Thomas
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 139
                                                                                                                                                                                                                                                                                                                                                                                                           "Leu
                                                                                                                                                                                                                                                                          "Cyanogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V11
                                                                                                                                  ΚA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protease
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                                                                                                                                                                                                                                                                            Bromide cleavage peptide"
                                                                                                                                                                                                                                                                                                          Bromide cleavage peptide"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide"
                                                                            for
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В Š

27

Query Match Best Local S Matches 18

Sequence

190 AA;

Key Peptide Protein

Rattus blood

vessel implant

Rat Vascular 29-JUL-1992 R22347;

(first entry)

R22347 standard;

12

Peptide Modified-site

'label= T27

102

Peptide

132

Peptide

Peptide Peptide

'label= 165

135

13;

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                    The full length coding region of the A subunit or monomer of VEGF oligo. primers based on the amino acid sequences
C ple-Met-Asp-Val-Tyr-Gln from polypeptide L42 (residues 42-47) and CCys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used to PCR amplify the central region of the cDNA for VEGF A chain.
C1 igated into pGEM3Zf(+) and sequenced. The nucleotide sequence obtained (p4238) was used to design antisense and sense PCR primers to amplify the 5 and 3 ends of the CDNA. These 5' and 3' clones coding the 164 amino acid secreted form identified by protein ccc and a 214 amino acid forms are cloned and sequenced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular development; mitogen; blood vessel; vascular endothelial growth factor; neovascularisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence of vascular endothelial cell growth factor VEGF 190 amino acid residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             were isolated and sequenced using the Edman degradation reaction in a gas phase sequenator. In addition to the peptide fragments which were directly sequenced, the full-length protein sequence was deduced from the cDNA encoding it.
                                                                                                                                                                                                                        Disclosure;
                                                                                                                                                                                                                                                         Vascular endothelial cell growth factor sub-units - which stimulate vascular endothelial cell growth, used for inducing tissue repair
                                                                                                                                                                                                                                                                                                              WPI; 1992-325745/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP506477-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-FEB-1993
                                                                                                                                                                                                                                                and growth.
                                                                                                                                                                                                                                                                                                                                         Bayne ML, Thomas KA;
                                                                                                                                                                                                                                                                                                                                                                                           28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                     27-MAR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R27350 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  See also Q23040-Q23059
 Sequence
                                                                                                                                                                                                                                                                                                                                                                (MERI ) MERCK & CO INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          190
190 AA;
                                                                                                                                                                                                                    Page 28-29; 61pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                           91US-0676436
                                                                                                                                                                                                                                                                                                                                                                                                                     92EP-0302750.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein; 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 101; DE
Pred. No. 1.5e
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 13;
.5e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>;</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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and sequenced. The reduced and carboxymethylated protein eluted coar two peaks at approx. 23 and 25 ml that were of approx. equal coarboxymethylated protein eluted carboxymethylation were each applied to polybrene-coated glass coarboxymethylation to peak of absorbance eluting coarbox 23 ml (B subunit) yielded the N-terminal sequence Ala coarboxymethylation (B subunit) yielded the N-terminal sequence Ala coarbox 23 ml (B subunit) yielded the N-terminal sequence Ala coarbox 23 ml (B subunit) yielded the N-terminal sequence Ala coarbox 23 ml (B subunit) yielded the N-terminal sequence Ala coarbox 24 ml acly as a hearly equal amount of a truncated form of the same coarbox 25 ml (A san xaa Ser Thr Glu Wal Val pro phe Asn coarbox 25 ml (A san xaa Ser Thr Glu Wal Val pro phe Asn coarbox 25 ml (A san in the cloned sequence. The A and sum of the B chain peptides were recovered in nearly equal amonunts supporting the heterodimer in that the two peptides combine to form an AB coarbox 25 ml (A san xaa Ser Thr (B mature A subunit in the heterodimer is the 135 amino acid form derived from the 158 full length amino acid form. The form of VEGF AB mature B subunit in the heterodimer is the 135 amino acid form derived from the 158 full length amino acid form.
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 1; 61pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                and growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial cell growth factor sub-units - which stimula vascular endothelial cell growth, used for inducing tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1992-325745/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bayne ML,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-MAR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vascular development; mitogen; blood vessel; vascular endothelial growth factor; neovascularisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-FEB-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R27351;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MERI ) MERCK & CO INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-SEP-1991.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EP506477-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 APTTEGEQKSHEVIKEMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          apttegegkahevvkfmdvy 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thomas KA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vascular endothelial cell growth factor VEGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= glycosylation site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein;
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Pred. No. 1.5e-09;
2; Mismatches 0
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CC GS-9L cells were cultured and the VEGF AB subunits were isolated CC and sequenced. The reduced and carboxymethylated protein eluted CC as two peaks at approx. 23 and 25 ml that were of approx. equal CC area as determined by monitoring absorbance at 210 nm. Samples CC of the two protien subunitis isolated after reduction and CC carboxymethylation were each applied to polybrene-coated glass (fiber filters and their N-terminal sequences were determined. CC The peak of absorbance eluting at approx 25 ml (A subunit) yielded CC an amino terminal sequence Ala Pro Thr Glu Gly Glu Glu Lys Ala His CC an amino terminal sequence Ala Pro Thr Glu Beak of absorbance eluting CC at approx. 23 ml (B subunit) yielded the N-terminal sequence Ala CC at approx. 23 ml (B subunit) yielded the N-terminal sequence Ala CC Glu Val Val I val To Ala Ser Thr Glu Met Glu Val Val Pro Phe Asn CC Glu Val Plus a nearly equal amount of a truncated form of the same sequence missing the first three residues. The missing X residue corresp. to an Asn in the cloned sequence. The missing X residue B chain peptides were recovered in nearly equal amounts supporting the interpretation that the two peptides combine to form an AB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
R27352
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Best Local
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                                                                                                                                                                                                                                                                     Disclosure; Fig 2; 61pp; English.
                                                                                                                                                                                                                                                                                                            Vascular endothelial cell growth factor sub-units - which stimulate vascular endothelial cell growth, used for inducing tissue repair
                                                                                                                                                                                                                                                                                                       and growth.
                                                                                                                                                                                                                                                                                                                                                               WPI; 1992-325745/40.
N-PSDB; Q28951.
                                                                                                                                                                                                                                                                                                                                                                                                         Bayne ML, Thomas KA;
                                                                                                                                                                                                                                                                                                                                                                                                                                        (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-MAR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-SEP-1991
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular development; mitogen; blood vessel; vascular endothelial growth factor; neovascu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence of vascular endothelial cell growth factor VEGF AB
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/label= glycosylation site
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Pred. No. 1.5e-09;
2; Mismatches 0;
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                                                           Matches
                                                                        Query Match
Best Local :
                                                                                                                                                   heterodimer in VEGF II. The form of VEGF AB mature A subunit in the heterodimer is the 164 amino acid form. The form of VEGF AB mature J subunit in the heterodimer is the 13 amino acid form derived from the 158 full length amino acid form.
                                                                                                                             Sequence
27 apttegeqkahevvkfmdvy 46
               1 APTTEGEQKSHEVIKEMDVY 20
                                                           l Similarity
18; Conserv
                                                                                                                         190 AA;
                                                           Conservative
                                                                    90.0%;
                                                  Score 101; DB 13;
Pred. No. 1.5e-09;
2; Mismatches 0;
                                                                               Length 190;
                                                       Indels
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Search completed: November 9, 2000, 15:30:39 Job time: 104 sec

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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and is derived by analysis of the total score distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Issued_Patents_AA:*

1: /cgn2_6/ptodata/2,

2: /cgn2_6/ptodata/2,

3: /cgn2_6/ptodata/2,

4: /cgn2_6/ptodata/2,

5: /cgn2_6/ptodata/2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length: 0
length: 2000000000
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Copyright (c) 1993 - 2000 Com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/ECTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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     16761186 residues
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US-08-457-299-1
US-08-467-487-1
US-08-464-956-1
US-08-479-733A-30
US-08-807-992B-17
US-08-807-992B-20
US-08-807-992B-20
US-08-807-992B-20
US-08-807-992B-20
US-08-807-992B-20
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5219739-9
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US-08-807-992B-31
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     PCT-US96-09001-10
US-08-327-709-3
US-08-327-709-4
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5219739-18
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5.528 Million cell updates/sec
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                                                                                                                                         Patent No. 53
Patent No. 52
Patent No. 51
Patent No. 52
Patent No. 53
Sequence 1,
Sequence 20,
                 Patent No. 5219739
Patent No. 5332671
Sequence 1, Appli
Sequence 20, Appli
Sequence 20, Appli
Sequence 30, Appl
Sequence 31, Appl
Sequence 33, Appli
Sequence 33, Appli
                                             Patent No.
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 15,
Patent No. 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
Sequence
Sequence
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Sequence 31,
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219739
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US-08-569-063C-20
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65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5
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5194596-19	US-08-691-794-3	5240848-10	US-08-482-369A-31	US-08-479-727A-31	US-08-807-992B-21	US-08-807-992B-18	US-08-807-992B-14	US-08-807-992B-11	US-08-807-992B-8	US-08-807-992B-5	US-08-350-212-2	US-08-479-733A-31	US-08-464-956-4	US-08-464-956-3	US-08-457-487-2	US-08-457-229-2
Patent No. 5194596	Sequence 3, Appli	24	Sequence 31, Appl	•	Sequence 21, Appl	`	•	Sequence 11, Appl	-	Sequence 5, Appli	Sequence 2, Appli	Sequence 31, Appl	-	•	Sequence 2, Appli	•

ALIGNMENTS

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;; TYPE: amino acid
;; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-569-063C-20
                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/569,063C
FILING DATE: 06-DEC-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/469,427
FILING DATE: 06-JUN-1995
PRIOR APPLICATION NUMBER: US 08/397,651
APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
ATTONNEY/AGENT INFORMATION:
NAME: EVANS, JOSEPH D
RECISTRATION NUMBER: 1064/41979CP3
REFERENCE/DOCKET NUMBER: 1064/41979CP3
TELEPHONE: (202) 628-8800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 20, Application Patent No. 5928939
GENERAL INFORMATION:
                                                                                                                                     TELEFAX: (202) 628-884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: USA
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: VASCULAR ENTITLE OF INVENTION: DNA CODING NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: ERIKSSON, U1f
APPLICANT: OLOFSSON, Birgitta
APPLICANT: ALITALO, Kari
APPLICANT: PAJUSCLA, Katri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Evenson, McKeown, Edwards & Lenahan, P.L.L.C. STREET: 1200 G Street, N.W., Suite 700 CITY: Washington STATE: DC
                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/08569063C
                                                                                                                      190 amino acids
                                                                                                                                                                                            (202) 628-8844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Floppy disk
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RESULT 3
US-08-469-427A-15
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US-08-807-992B-31
                                                                                                                   Patent No.
                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 18; Conserv
                                                                                                   GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.0%; Matches 20; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (978) 525-3
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
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                                 APPLICANT: Eriksson, Ulf
APPLICANT: Olofsson, Birgit
APPLICANT: Alitalo, Kari
APPLICANT: Pajusola, Katri
    TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: peptide FRAGMENT TYPE: N-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: MATCH 3, 1997
A724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                        TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27 APTTEGEQKSHEVIKFMDVY 46
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                                                                                                                   5, Application US/08469427A 5607918
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SSEE: David Prashker, Esq. T: P.O. Box 5387
Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/08807992B
                                                                                                                                                                                                                                                                          Conservative
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D NO: 31:
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                                                                                                                                                                                                                                                                                       90.0%;
VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND DNA CODING THEREFOR
                                                                Birgitta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vessel
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                                                                                                                                                                                                                                                                                      Score 101; DB 3;
Pred. No. 6.4e-11;
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); Mismatches
                                                                                                                                                                                                                                                                       Mismatches
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hes 0;
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5194596-11
;Patent No. 5194596
;Patent No. 5194596
;Patent No. 5194596
;C:MITCHELL, RICHARD L.
;C:MITCHELL, RICHARD L.
;TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                          5194596-11
                                                                                                                                                                                                                             GROWTH FACTOR

NUMBER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/450,883

FILING DATE: 14-DEC-1989

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-469-427A-15
                                                                                                                                                                      APPLICATION NUMBER: 387,545;
FILING DATE: 27-JUL-1989
SEO ID NO:11:
LENGTH: 21
                                                              Query Match
Best Local Similarity
Matches 15; Conserv
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Best Local Similarity
Matches 19; Conserv
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MEDIUM TYPE: Floppy disk
COMPUTER: IBW PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,427A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (202) 628-8844
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/397,651
FILING DATE: 'OI-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: Evans, Joseph D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Evenson, McKeown, Edwards & Lenahan
STREET: 1200 G Street, N.W., Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 1200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 189 amino acids TYPE: amino acid scranDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Evans, Joseph D
REGISTRATION NUMBER:
APMAEGGQKPHEVVKFMDVY 21
                    APTTEGEQKSHEVIKEMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APTTEGEQKSHEVIKF-DVY 45
                                                                   Conservative
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                                                                              71.18;
75.08;
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95.0%;
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                                                                Score 81; DB 5;
Pred. No. 1.4e-07;
1; Mismatches
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Pred. No. 6.1e-08;
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                                                                                                 Length 21;
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                                                              Gaps
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RESULT 7
5194596-21
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532671-14
:Patent No. 532671
APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
FITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR AND DNA ENCODING SAME
NUMBER OF SEQUENCES: 15
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/389,722
FILING DATE: 04-AUG-1989
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5332671-14
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            GROWTH FACTOR

NUMBER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/450,883

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
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5219739-11
                                                                                                                                                                       ; Patent No. 5194596
; APPLICANT: TISCHER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND ;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN :VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HVEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Patent No. 5219739

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN C.; MITCHELL, RICHARD L.
                                                                                                                                    C.; MITCHELL, RICHARD L.
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO:14:
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Best Local Similarity 75.0
Matches 15; Conservative
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Best Local
                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATE:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
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APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                               1 APTTEGEQKSHEVIKFMDVY 20
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                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                    PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                         EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   71.1%; Score 81; 75.0%; Pred. No.
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; FILING DATE: ;SEQ ID NO:21:
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5219739-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HYBRIF FOR THE PRODUCTION OF BOVINE AND HUMAN; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA;

CURRENT APPLICATION DATA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;Patent No. 5219739
; APPLICANT: TISCHER, ED;
;JOHN C.;MITCHELL, RICHARD
                                                                                                                                                                                                                                                                        GROWTH FACTOR
NUMBER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                                        C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                   Patent No. 5194596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO:26:
                                                                                                                                                                  SEQ ID NO:9:
                                                       Query Match 71...
Best Local Similarity 75.0
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Simelarity
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
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ETLING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
ETLING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
ETLING DATE: 27-JUL-1989
                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                     APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 41
                                                                                                                                                     LENGTH: 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 41
               1 APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                1 APTTEGEQKSHEVIKFMDVY 20
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APMAEGGQKPHEVVKFMDVY
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                                                                         71.18;
75.08;
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75.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 81;
Pred. No.
                                                                         Score 81;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 81; DB 5;
Pred. No. 3e-07;
                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 5;
3e-07;
                                                                         DB 5;
1e-06;
                                                                                      Length 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 41;
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                                                           Gaps
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GROWTH FACTOR

INDUSTRIAL PRODUCTION OF VASCULATION OF SEQUENCES: 32

CURRENT APPLICATION UNBER: US/07/450,883

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545

FILING DATE: 27-JUL-1989

SEQ ID NO:17:
                                                                                                                                                                                                                                           RESULT 12
5219739-17
;Patent No. 5219739

;Patent No. 5219739

APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN C.;MITCHELL, RICHARD L.

TILE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HYBEF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HVBGF NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/559,041

FILING DATE: 27-ULT-1990

; PRIOR APPLICATION DATA:
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5194596-17
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5219739-9
; PATENT NO. 5219739
; PATENT NO. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN C.; MITCHELL, RICHARD L.
; JOHN C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND
HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121
NUMBER OF SEQUENCES: 40
; NUMBER OF SEQUENCES: 40
; CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;Patent No. 5194596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5219739-9
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                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
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Best Local S
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Best Local Similarity 75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/07/55:
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                                                                              LENGTH: 164
                                                                                                                                                                                                                                                                                                                                                                          1 APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 120
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                                                                                                                                                                                                                                                                                                                                                                                                                   h 71.1%; Score 81; DB 5; Similarity 75.0%; Pred. No. 1.5e-06; 15; Conservative 1; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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                                                                                                     AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
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APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.

TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL

GROWH FACTOR AND DNA ENCODING SAME

NUMBER OF SEQUENCES: 15

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/389,722

FILING DATE: (04-AUG-1889)

PRIOR APPLICATION NUMBER: 369,424

FILING DATE: 12-UN-1989

APPLICATION NUMBER: 351,117

FILING DATE: 12-MAY-1989
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5332671-3
5332671-3
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
FILING DATE: 14-DEC-1989
FILING DATE: 27-JUL-1989
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5219739-18
                               SEQ ID NO:3:
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FILING DATE: 14-DEC-1999
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:17:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;Patent No. 5219739
; APPLICANT: TISCHER, ED; JOHN C.;MITCHELL, RICHARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5219739-17
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Best Local S
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              LENGTH: 190
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15; Conserv
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75.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                               Score 81; DB 5;
Pred. No. 1.5e-06;
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Pred. No. 1.5e-06;
                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                               Length 164;
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Matches Query Match Best Local S

il Similarity 15; Conserv

Conservative

71.1%; 75.0%;

Score 81; DB 5; Le Pred. No. 1.7e-06;

Length 190;

Indels

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Gaps

0;

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TELEPHONE: (617) 542-5070
TELEFAX: (617) 542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 25
TYPE: amino acid
TOPOLOGY: linear
US-08-327-709-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
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US-08-327-709-1
Search completed: November 9, 2000, 15:33:02 Job time: 243 sec
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MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 555X
OPERATING SYSTEM: IBM PC.C. DOS (Version 3.30)
SOFTWARE: WOIGHPERCT (Version 5.0)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/327,709
FILING DATE: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/779,384
FILING DATE: October 18, 1991
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 01948/024001
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1, Application US/08327709
Patent No. 5659013
                                                                                                                                                                                                                                                                                                                                                     Query Match 70.2%; Score 80; DB 1; Length 25; Best Local Similarity 75.0%; Pred. No. 2.5e-07; Matches 15; Conservative 1; Mismatches 4; Indels
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APPLICANT: Donald R. Senger and Harold F.
APPLICANT: DVOTOL
TITLE OF INVENTION: VASCULAR PERMEABILITY FACTOR
TITLE OF INVENTION: TARGETED COMPOUNDS
NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 225 F
CITY: Boston
STATE: Massac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: U.S.A. ZIP: 02110-2804
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27 APMAEGGQKPHEVVKFMDVY 46
                                                                                                                                                                                           Massachusetts
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              on:
   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                            Score
  101
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length: 2000000000
  Issued_Patents_AA:*
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Gapop 10.0 ,
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/cgn2_6/ptodata/2/iaa/6_COMB.pep:*
/cgn2_6/ptodata/2/iaa/FCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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 Gapext 0.5
         US-08-807-992B-9
US-08-464-956-2
US-08-807-992B-6
US-08-807-992B-15
US-08-807-992B-26
S240848-11
US-08-807-992B-3
5219739-22
5240848-7
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US-08-569-063C-20

US-08-784-5562-21

US-08-469-427A-14

US-08-039-297B-2

US-08-569-063C-21
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US-08-807-992B-2
US-08-691-794-2
5332671-4
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  PCT-US96-09001-10
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Compugen Ltd
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(without alignments)
5.265 Million cell updates/sec
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         Sequence 2, Appli
Sequence 6, Appli
Sequence 15, Appli
Sequence 15, Appli
Sequence 26, Appli
Sequence 27, Appli
Sequence 3, Appli
                                                                                                                                                        Sequence 15, Appl
Sequence 2, Appli
Sequence 14, Appl
Sequence 2, Appli
Sequence 21, Appli
Sequence 21, Appli
Sequence 21, Appli
Patent No. 5219739
Patent No. 1
Patent No. 1
Sequence 1
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Patent No. 5194596
Patent No. 5219739
                                                                                                                                                                                                                                                                                                            Description
                                                                                                                                                                                                                                                                            Patent No. 5194596
Patent No. 5219739
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5219739-20
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5194596-19
                                5219739-20
                                         SEQ ID NO:20:
LENGTH:
                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 17
 Query Match
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	22
53	53	53	56	57	58	58	60	62	66	66	66	66	67	67	67	6/
44.2	44.2	44.2	46.7	47.5	48.3	48.3	50.0	51.7	55.0	55.0	55.0	55.0	55.8	55.8	55.8	υυ. α
207	207	12	12	170	12	12	. 18	14	190	164	164	164	232	232	232	232
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US-08-569-063C-15	US-08-609-443B-15	US-08-742-243-67	US-08-742-243-65	US-08-039-297B-8	US-08-742-243-66	US-08-742-243-3	US-08-807-992B-19	US-08-807-992B-12	5332671-3	5219739-18	5219739-17	5194596-17	US-09-042-105-7	US-08-807-992B-4	US-08-824-996-9	1. TT8-666-80-50
Sequence 15	Sequence 15	Sequence 67	Sequence 65	Sequence 8,	Sequence 66,	Sequence 3,	Sequence 19,	Sequence 12,	Patent No. 5:	Patent No. 5	Patent No. 5	Patent No. 5	Sequence 7,	Sequence 4,	Sequence 9,	sequence /,
, Appl	, Appl	, Appl	, Appl	7		Appli	-	, Appl	5332671	5219739	5219739	194596	Appli	Appli	Appli	TTddW

ALIGNMENTS

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TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HYPEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VARSCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYPEGF NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-UTL-1990
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                          ; APPLICANT: TISCHER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CÜRRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GROWTH FACTOR
HUMBER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;Patent No. 5194596; Patent No. 5194596; Patent No. 5194596; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JO;
;C.;MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                Patent No. 5219739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CECRPKKDRTKPEKCDKPRR 20
||||||||| : ||||||||
102 CECRPKKDRARQEKCDKPRR 121
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ch 86.7%;
l similarity 85.0%;
17; Conservative
                                                                                                                                                                                                                                                                                                             RICHARD
                                                                                                                                                                                                                                                                                                                                     EDMUND G.; ABRAHAM, JUDITH A.; FIDDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 104; DB 5;
Pred. No. 1.7e-07;
1; Mismatches 2;
                                                                                                                                                                                                                                    BVEGF120 AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 121;
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86.78;

Score 104;

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Length 121;

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Gaps

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GROWTH FACTOR

NUMBER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
                                                                                                                            ;Patent No. 5194596

; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN

;C.;MITCHELL, RICHARD L.

;TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-807-992B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-807-992B-1
                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WORDPERFECT VERSION 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: MARCH 3, 1997
CLASSIFICATION: 424
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1, Application US/08807992B Patent No. 6022541
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIT
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                128 CECRPKKDRARQEKCDKPRR 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ||||||||| : ||||||||
102 CECRPKKDRARQEKCDKPRR 121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Magnolia
STATE: Massach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino acid
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                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Senger,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            David Prashker, Esq.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 85.0%; Pred. No. 1.7e-07; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                 86.7%; Score 104;
85.0%; Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Donald R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vessel
                                                                 US/07/450,883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BIS-033
                                                                                                                                                                                                                                                                                                                                                                                        DB 3;
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                                                                                                                                                                                                                                                                                                                                                                                  Length 147;
                                                                                                                                                                                                                                                                                                                                                Indels
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5219739-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5219739-9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;Patent No. 5219739
; APPLICANT: TISCHER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5194596-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO:9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOHN C.; MITCHELL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; SEQ ID NO:9:
                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 15, Application US/08469427A Patent No. 5607918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/55
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450, 883
FILING DATE: 1.4-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,427A
FILING DATE: 06-UN-1995
                                                                                                                                                                                                                                                APPLICANT: Pajusola, Katri
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
TITLE OF INVENTION: DNA CODING THEREFOR
NUMBER OF SEQUENCES: 17
                                                                                                                                             CIII.
STATE: DC
TT: 20005
                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  101 CECRPKKDKAROEKCDKPRR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                          STREET: 1200 G St
CITY: Washington
                                                                                                                                                                                                           ADDRESSEE: Evenson, McKeown, STREET: 1200 G Street, N.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101 CECRPKKDKARQEKCDKPRR 120
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
nes 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 120
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                                                                                                                                                                                                                                                                                                                                     Alitalo, Kari
                                                                                                                                                                                                                                                                                                                                                    Eriksson, Ulf
Olofsson, Birgitta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EDMUND G.; ABRAHAM, JUDITH A.; FIDDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84.2%; Score 101; DB 5; Length 120; 80.0%; Pred. No. 4.4e-07; tive 2; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US/07/559,041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 101; DB 5;
Pred. No. 4.4e-07;
                                                                                                                                                                                                             Edwards & Suite 700
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                                                                                                                                                                                                                            Lenahan
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Gaps

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Matches

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PRIOR APPLICATION DATA:

APPLICATION NUMBER:

us 08/397,651

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; TOPOLOGY: 1:
; MOLECULE TYPE:
US-08-469-427A-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 19; Conservative
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Best Local Similarity
                          APPLICATION NUMBER: US 08/469,427
EILING DATE: 06-JUN-1995
PRIOR APPLICATION DATA: US 08/397,651
EILING DATE: 01-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: EVANS, JOSEPH D
REGISTRATION NUMBER: 26,269
REGISTRATION NUMBER: 26,269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (202) 628-88 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tent No.
                                                                                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS
                                                                                                                                                                                          PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              186 KPRR 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     126 CECRPKKDRTKPENHCEPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD 185
ELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND ITLE OF INVENTION: DNA CODING THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 189 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17 KPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Evans, Joseph D
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 01-MAR-1995
TORNEY/AGENT INFORMATION:
              REGISTRATION NUMBER: 26,269
REFERENCE/DOCKET NUMBER: 1064/41979CP3
                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CECRPKKDRTKPE----
                                                                                                                                                                                                                LING DATE:
                                                                                                                                                                                                                              CATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/08569063C
                                                                                                                                                                                                                                                                                                                                                                                                                                           3: Evenson, McKeown, Edwards & Lenahan, P.L.L.C
1200 G Street, N.W., Suite 700
                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAJUSOLA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OLOFSSON, Bir
ALITALO, Kari
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OLOFSSON, Birgitta
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Pred. No. 9.4e-05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                           INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tent No.
                                                                                                                                      NAME: Cohen, Herbert 25,109 REGISTRATION NUMBER: 25,109 REFERENCE/DOCKET NUMBER: 02 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                          APPLICATION NYMBER: US/08/784
FILING DATE: January 21, 1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM COMPATIBLE OF 5.0 OPERATING SYSTEM: IBM P.C. DOS 5.0 SOFTWARE: FastSEQ for Windows 2.0 CURRENT AMPLICATION DATA:
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MEDIUM TYPE: :3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 900 17th STREET: Suite 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 190 amino acids
TYPE: amino acid
STRANDEDNESS: single
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                                                                                                                            CELEPHONE:
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                                amino acid
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                                           145 amino acids
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29.7%;
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Pred. No. 9.5e-05;
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Search completed: November Job time: 242 sec
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US-08-807-992B-2
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                                                                                                                                                                                                                    Query Match 57.5%;
Best Local Similarity 25.0%;
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                      TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 57.5%;
Best Local Similarity 25.0%;
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       equence 2, Application US/08807992B atent No. 6022541 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: DAVID PLASHER: 29,693
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOTWARE: Wordesfect version 5.1
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                         188 KPRR 191
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/807,992B FILING DATE: March 3, 1997 CLASSIFICATION: 424
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Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Massachusetts
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Dvorak,
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Harold F
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vessel
         9, 2000, 15:33:01
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Pred. No. 0.013;
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                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                              /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1983.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1992.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT:*
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Gapop 10.0 , Gapext 0.5
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               Alternative form o Sequence of vascul Vascular endotheli VEGFA 146 amino ac Human vascular end Human vEGF-121. H Amino acid sequenc Human growth facto Parapox virus VEGF Human vascular end VEGF121. Homo sap
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68.	69.	69.	69.	69.	70.	70.	70.	70.	70.	70.	70.	70.	70.	70.	71.	80.	80.	101 84.2	84.	86.	86.	86	86.	86.	86	8	8	86.	86.	104 86.7	86.	80
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5693	7030	3641	7355	2351	7028	3441	3643	3642	3639	7352	7351	7350	2347	3120	3482	3437	7724	R38916)916)594	1073	0590)588	W00589	W00587	4071	W00586	1032	1031	Y83033	9412)402
Vascular	VEGFA 214	Vascular	Sequence	Alternative	Vascular	Parapox	Vascular	Vascular	Vascular	Sequence	Sequence	Sequence	Rat Vasc	Mammalia	Amino acid	Parapox	Human VE	Bovine V	Bovine v	SAP(Gly4	SAP(Gly4	SAP-Alam	SAP-Alam	SAP-Alamet-V	SAP(GLy4	SAP(Gly4	SAP-Alam	VEGF121	21		0	VEGF enc
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ALIGNMENTS

R22348 standard; Protein; 146 AA.

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21-SEP-1990;
21-SEP-1990;
Bayne ML, Conn GL,
                                                                                                                                                                              Rattus.
                                                                                                                                                                                                         Rat glioma cell; GS-9L; conditioned medium; heterodimer; VEGF-II;
homodimer; mitojenesis; vascular repair; blood vessel implant;
                                                                                                                                                                                                                                    Alternative
                 (MERI ) MERCK & CO INC.
                                                             18-SEP-1991;
                                                                              25-MAR-1992.
                                                                                                EP476983-A.
                                                                                                                                  Protein
                                                                                                                                                    Peptide
                                                                                                                                                             Key
                                                                                                                                                                                               polymerase chain reaction; alternative splicing
                                                                                                                                                                                                                                                    29-JUL-1992 (first entry)
                                                                                                                                                                                                                                                                         R22348;
                                                                                                                                                                                                                                    form of VEGF mature A-subunit with 120 amino acids.
                                  90US-0586640
90US-0586638
                                                             91EP-0308489
                                                                                                                1..26
/label- signal
27..146
/label- VEGF_A-subunit
/note- "120 amino acids long"
                                                                                                                                                           Location/Qualifiers
Thomas KA;
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acid sequenc

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RESULT
R27354
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Best Local S
Matches 20
The full length coding region of the A subunit or monomer of VEGF is determined from three sets of overlapping cDNA clones. Degenerate oligo. primers based on the amino acid sequences Phe-Met-Asp-Val-Tyr-Gln from polypeptide L42 (residues 42-47) and
                                                                                                          Vascular endothelial cell vascular endothelial cell
                                                                       Disclosure; Fig
                                                                                                                                              N-PSDB; Q28953.
                                                                                                                                                                                 Bayne ML, Thomas KA;
                                                                                                                                                                                                        (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                  28-MAR-1991;
                                                                                                                                                                                                                                                       27-MAR-1992;
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                                                                                                                                                                                                                                                                                                        EP506477-A.
                                                                                                                                                                                                                                                                                                                                  Rattus
                                                                                                                                                                                                                                                                                                                                                Vascular development; mitogen; blood vessel, vascular endothelial growth factor; neovascu
                                                                                                                                                                                                                                                                                                                                                                                   Sequence of vascular endothelial cell growth factor VEGF 146\, amino acid residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Multiple cDNAs encoding alternative forms of the VEGF A-subunit were amplified using PCR primers as in Q23049 and Q23050. Three sets of clones were identified. Clone #12 encoded the 164 amino acid secreted form of VEGF A-subunit (see R2347), Clone #14 has a 135 bp 72bp insertion and thus encodes a 120 amino acid form and Clone #16 has a 72bp insertion and encodes a 188 amino acid mature protein (R22351), and the third base of the Arg184 codon. The 120 amino acid mature protein has Asn140 converted to Lys140.
                                                                                                                                                                                                                                                                                                                                                                                                                              25-FEB-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R27354 standard; Protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 9; Page 14 and Fig 4; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascular endothelial cell growth factor II - used as artificial blood vessels or to promote tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1992-098641/13
N-PSDB; Q23039.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ш
                                                                                                                                                        1992-325745/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cecrpkkdrtkpekcdkprr 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 100.
20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                             9108-0676436
                                                                     4; 61pp;
                                                                                                                                                                                                                                                      92EP-0302750.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                     English
                                                                                                 growth factor sub-units - which stimulate growth, used for inducing tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 120; DB 13;
Pred. No. 4.4e-09;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                neovascularisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   coating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
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Best Local S
Matches 20
        The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, w35639. The present invention describes: (1) a mammalian VEGF II protein from W35639 or the first 115-135 amino acids of W3538; and 2) and a B subunit a mammalian VEGF II protein a mammalian VEGF comprising a heterodimer or homodimer of B subunit a mammalian VEGF comprising a heterodimer or homodimer of B subunits. and for promoting tissue repair.

N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                                                                                                                                                                                                                                                                                                                                          31-AUG-1994;
21-SEP-1990;
05-JAN-1993;
                                                                                                                                                                                    Claim 1; Page -;
                                                                                                                                                                                                                 Vascular endothelial growth factor proteins - having specified A and
                                                                                                                                                                                                                                                         WPI; 1998-206007/18
                                                                                                                                                                                                                                                                                 Bayne ML, Conn
                                                                                                                                                                                                                                                                                                            (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                  31-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial cell growth factor; VEGF II; rat; glimitogenesis; blood vessel growth; artificial blood vessel
                                                                                                                                                                                                                                                                                                                                                                                                                            10-MAR-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used to PCR amplify the central region of the cDNA for VBGF A chain. A single band migrating at 420 bp was gel purified, digested with Sall, ligated into pGEM3Zf(+) and sequenced. The nucleotide sequence obtained (p4338) was used to design antisense and sense PCR primers to amplify the 5' and 3' ends of the cDNA. These 5' and 3' clones are denoted p5-15 and pw3, respectively. In addition to the cDNA coding the 164 amino acid secreted form identified by protein sequencing, two alternatively spliced cDNAs encoding a 146 amino acid forms are cloned and sequenced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      US5726152-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular endothelial growth factor II A subunit variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-JUL-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W53640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W53640 standard; Protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CECRPKKDRTKPEKCDKPRR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          l Similarity
20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146 AA;
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                                                                                                                                                                                                                                                                                                                                       94US-0299185.
90US-0586638.
93US-0000834.
                                                                                                                                                                                                                                                                               GL,
                                                                                                                                                                                                                                                                                                                                                                                            94US-0299185
                                                                                                                                                                                    46pp; English.
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Pred.
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NO. 4.4e-09;
smatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cell;
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Sequence

146 AA;

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146;

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RESULT
R11385
ID R1
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Y57029
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Best Local S
Matches 20
                                                                                                                                Matches
                                                                                                                                           Query Match
Best Local Similarity,
                                                                                                                                                                                                                This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF C subunit amino acid sequence Y57025. VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or BC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VEGF; vascular endothelial growth factor; A subunit; tissue growth; vascular development; artificial blood vessel; repair; human.
                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Fig 3; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                       Purified and isolated vascular endothelial cell growth factor C subunit for the induction of tissue repair or growth -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VEGFA 146
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            R11385 standard;
                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MERI ) MERCK & CO INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Y57029 standard; Protein; 146 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              127
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                                                                                          1 CECRPKKDRIKPEKCDKPRR 20
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                                                                            cecrpkkdrtkpekcdkprr 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000-038268/03.
                                                                                                                                20;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino acid residue subunit sequence.
                                                                                                                                                                                               146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bayne ML;
                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91US-0676436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93US-0124259
             Protein; 121 AA
                                                                                                                                         100.0%;
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                                                                                                                             Score 120; .DB 21; Pred. No. 4.4e-09; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 120; DB 19;
Pred. No. 4.4e-09;
; Mismatches 0;
                                                                                                                                                      Length 146;
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                                                                                                                                Indels
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R42607
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Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                         the protein in circulation, whereas hbbGF165 binds heparin strongly. The product can be used for angiogenesis and re-endothellalisation of inner vascular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic ulcers, burns, in surgery, in balloon angioplasty and for the in vitro culturing of endothelial cells. Hybrid growth factors of PDGF and VEGF can exhibit a mitogenic profile between each factor and can be used for wound healing or as inhibitors of angiogenesis for e.g. preventing the growth of tumours.

VEGF analogues in which CVS residues are substd. are more stable. see also Q10791-93; Q10796-97; Q10806-08 and Q11099.
                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The two forms of VEFG (Q10797 and Q10917) which arise through different message splicing, have different properties. In partic. hVEGF121 does not bind to heparin leaving more of the protein free to bind to VEGF receptor and increase the half-life and distribution of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA encoding vascular endothelial cell growth factor - used for producing the factor for anglogenesis and re-endothelialisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tischer ER, Abrhamam,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovine vascular endothelial cell growth factor; anglogenesis; wound healing; hVEGF; PDGF.
Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                   Human VEGF-121.
                                                                                                                      R42607;
                                                                                                                                                R42607 standard; Protein; 121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Fig 7(1-2); 94pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; Q11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1991-073534/10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CALB-) CALIF BIOTECHN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-DEC-1989;
27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-JUL-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human vascular endothelial cell growth factor 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-MAY-1991 (first entry)
                                                                                                                                                                                                                                          102 cecrpkkdrarqekcdkprr 121
                                                                                                                                                                                                                                                            1 CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                        σ
                                                                                                                                                                                                                                                                                                                                                                                              121 AA;
                                                                                                                                                                                                                                                                                                            Conservative
                                                                                    (first
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89US-0387545
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                                                                                    entry)
                                                                                                                                                                                                                                                                                                                       86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fiddes
                                                                                                                                                                                                                                                                                                          Score 104; DB 12;
Pred. No. 4.8e-07;
1; Mismatches 2;
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                                                                                                                                                                                                                                                                                                                                          Length 121;
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RESULT
Y23943
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Best Local
       06-JUL-1999.
                           JP11178593-A
                                                                                                                                                                                                                                                                                                                    The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences can be generated using PCR with human foetal vascular smooth muscle
                                               Homo sapiens
                                                                                    Amino acid sequence
                                                                                                           21-SEP-1999
                                                                                                                              Y23943;
                                                                Vascular endothelial growth
                                                                                                                                                Y23943 standard; peptide; 121
                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                poly-A+ RNA as template.
                                                                                                                                                                                                                                                                                                                                                                                             Claim 3; Fig 7; 40pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                      Isolated DNA sequences, expression vectors and transformant cells used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                                102 cecrpkkdrarqekcdkprr 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Abraham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-JUL-1990;
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14-DEC-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US5219739-A
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Misc-difference
                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                              1 CECRPKKDRTKPEKCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1993-205302/25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q49601.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JA,
                                                                                                                                                                                                                                                                                              121 AA;
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                                                                                                          (first
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89US-0450883.
90US-0559041.
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115
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "Lys 115 of hyEGF-121 amino acids encoded h
                                                                                of vascular endothelial growth factor (VEGF) 121.
                                                                                                         entry)
                                                                                                                                                                                                                                                   86.7%;
85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "inserted amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mitchell RL,
                                                                                                                                                                                                                       20
                                                                  factor;
                                                                                                                                                                                                                                        Score 104; DB Pred. No. 4.8e 1; Mismatches
                                                                VEGF; VEGF 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      encoded by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tischer
                                                                                                                                                                                                                                        DB 14;
.8e-07;
les 2;
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hVEGF-165 (see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   relative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              is replaced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               편
(;
                                                                                                                                                                                                                                                            Length 121;
                                                                                                                                                                                                                                        Indels
                                                              monoclonal antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     laced by 44
lternatively
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R38921)
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RESULT
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Best Local :
   This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 26 (1989) 2956). Y08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                                                                                             Claim 14; Page 7; 14pp; German.
                                                                                                                      yield
                                                                                                                        Preparing active growth vield
                                                                                                                                                      WPI; 1999-278785/24
                                                                                                                                                                           Erdmann
                                                                                                                                                                                                                       05-NOV-1997;
                                                                                                                                                                                                                                            05-NOV-1997;
                                                                                                                                                                                                                                                                   06-MAY-1999.
                                                                                                                                                                                                                                                                                        DE19748734-A1
                                                                                                                                                                                                                                                                                                                                            Growth factor; human;
                                                                                                                                                                                                                                                                                                                                                                  Human growth factor protein
                                                                                                                                                                                                 (GBFB ) GES
                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                   pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                         14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                Y08278;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Y08278 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121 present in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New VEGF121-specific levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1999-437318/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        102 cecrpkkdrarqekcdkprr
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17; Conserv
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                                                                                                                                                                                             BIOTECHNOLOGISCHE FORSCHUNG MBH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 AA;
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                                                                                                                                                                                                                      97DE-1048734.
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                                                                                                                                                                                                                                                                                                                                                                                       entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 monoclonal antibody
                                                                                                                                                                                                                                                                                                                                            dimer;
                                                                                                                                                                        Mueller C,
                                                                                                                             factor dimers
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                                                                                                                                                                                                                                                                                                                                                                fragment VEGF-A121.
                                                                                                                                                                                                                                                                                                                                         cysteine knot; céllular inclusion body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred.
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                                                                                                                            from inclusion bodies
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tches 2;
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RESULT 9
Y33438
ID Y33438 standard; Protein; 146 AA.
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Best Local :
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Best Local
                                                                                                                                                       This invention describes a novel polypeptide that is a parapox virus homolog of human vascular endothelial growth factor (PPV-VEGF) and stimulates endothelial cell proliferation. The products of the invention have angiogenic activity. The polypeptide can be used in pharmaceutical compositions for therapeutic or diagnostic use, e.g. for stimulating angiogenesis or tissue repair or for immunomodulation, e.g. by stimulating endothelial cell proliferation or inhibiting dendritic cell differentiation. Nucleic acids encoding the polypeptide can be used in pharmaceutical compositions for DNA vaccination or gene therapy. This sequence represents a protein fragment of a parapox virus D1701 vascular endothelial growth factor (VEGF) homologue.
                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                 Homolog of human vascular endothelial growth factor useful for stimulating endothelial cell proliferation, e.g. for stimulating angiogenesis or tissue repair or for immunomodulation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               D1701; vascular endothelial growth factor; PPV-VEGF; angiogenesis; endothelial cell proliferation; gene therapy; diagnostic; tissue repair; immunomodulation; dendritic cell differentiation; DNA vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (PLAC ) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DE19813774-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Parapoxvirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Parapox virus VEGF growth factor homologue protein fragment
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||||||||| : ||||||||
102 cecrpkkdrarqekcdkprr 121
 127
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nes 17; Conserv
                            1 CECRPKKDRTKPEKCDKPRR 20
cecrpkkdrarqekcdkprr 146
                                                        1 Similarity
17; Conserv
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                                                                                                                                                                                                                                                                                                                                    Fig 2;
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                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                or tissue repair or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
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                                                                                                                                                                                                                                                                                                                                      16pp;
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                                                                      86.7%;
85.0%;
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                                                                                                                                                                                                                                                                                                                                       German.
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Pred. No. 4.8e-07;
1; Mismatches 2;
                                                                    Score 104; DB 20;
Pred. No. 5.7e-07;
                                                         Mismatches
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                                                                                   Length 146;
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RESULT

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128 cecrpkkdrargekcdkprr

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Qy
                                                                                                                                              CC R91075-R91078 are human vascular endothelial growth factors (VEGFS).

CD DNA encoding a VEGF can be used to create a fusion protein (FP),

CC the cDNA of which includes a nucleic acid binding domain (NABD) and

CC encodes a heparin binding growth factor, HepGF (e.g. VEGF, FGF, HBEGF),

CC a protein synthesis inhibitor and opt. a linker imparting flexibility

CC to the FP. The FP can be used to target a protein synthesis inhibitor;

CC an antisense DNA sequence or an inhibitor of elongation factor 2, to a

CC cell carrying a HepGF receptor. The conjugates of the invention are

CC used to inhibit cell proliferation in cells carrying the particular

CC growth factor receptor. A specific application is to prevent

CC excessive proliferation of epithelial cells, fibroblasts and

CC excessive proliferation of epithelial cells, fibroblasts and

CC trabeculectomy after glaucoma surgery and corneal clouding after

CC excimer laser treatment. Other conditions which may be treated include

CC complications, Kaposi's sarcoma and rheumatoid arthritis.
                                             Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                          New conjugates of growth factor receptor ligand and targetted agent - partic. DNA or cytotoxin, used to control cell proliferation in the eye, e.g. to prevent growth of pterygii and corneal clouding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Key
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cell proli:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Baird JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-MAR-1994;
15-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conjugate; growth factor; FGF; cytotoxin; saporin; eye; regulation; cell proliferation; psoriasis; pterygla; corneal clouding; cancer; rheumattid arthritis; vascular endothelial; fibroblast; epidermal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human vascular endothelial growth factor-121,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-MAY-1996
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                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Pagé 184-185; 204pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1995-336820/43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (PRIZ-) PRIZM PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-MAR-1995;
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1 CECRPKKDRTKPEKCDKPRR 20
                                             1 Similarity
17; Conserv
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                                                                                                                        147 AA;
                                               Conservative
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94US-0213446
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                                                            86.7%;
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                                             Score 104; DB 16;
Pred. No. 5.7e-07;
1; Mismatches 2;
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                                                                          Length 147;
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R94001
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                                                                             Query Match
Best Local
                                                             Matches
                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascular endothelial cell growth factor (VEGF) conjugates - having VEGF linked to targeted agent, used for inhibiting proliferation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vascular endothelial growth factor; VEGF; human; conjugate; tumour; iris; proliferation inhibition; VEGF-mediated pathophysiological condition; dermatological disorder; VEGF receptor; vascular proliferation; retina; ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis; conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;
                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 122-123; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                            VEGF linked to targeted agent, cells, e.g. for gene therapy
128
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fleurbaaij GA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-MAY-1995;
29-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (PRIZ-) PRIZM
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                1 CECRPKKDRTKPEKCDKPRR
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cecrpkkdrarqekcdkprr 147
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                                                                          Similarity
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                                                                                                                                       147
                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PHARM INC
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94US-0297961
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                                                                        86.7%;
85.0%;
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                                                      Score 104; DB Pred. No. 5.7e 1; Mismatches
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                                                                     DB 17;
5.7e-07;
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                                                        'n
                                                                                     Length 147;
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                                                     Gaps
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RESULT W62524

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RESULT
Y90402
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence represents human vascular endothelial growth fact (VEGF-121). VEGF stimulates production of nitric oxide and prostacyclin. VEGF can therefore be used for treatment or prevention of intimal hyperplasia in a blood vessel. VEGF can be used for treatment or preventing any condition responsive to in vivo stimulation of nitric acid and prostacyclin (especially essential hypertension, pulmonary arterial hypertension (PAH), cor pulmonale and atherosclerosis: VEGF is specifically used to control (re)stenosis, where caused by PAH or by a surgical procedure such as angioplasty, coronary bypass operation, anastomosis or endarteriectomy.
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01-NOV-1996;
09-MAY-1997;
              VEGF encoded by clone VEGF121,
                                                                     18-JUL-2000 (first entry)
                                                                                                                                                                                    Y90402 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Treatment or prevention of intimal hyperplasia by stimulating production of nitric oxide - by administration of vascular endothelial growth factor, useful for, e.g. treating or preventions.
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                                                                                                                                                                                                                                                                                                                                  128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        intimal hyperplasia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-MAY-1998.
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17; Conserv
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96GB-0022852.
97GB-0009494.
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85.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 104; DB 19;
Pred. No. 5.7e-07;
                                                                                                                                                                                       AA
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                    NO:1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 147;
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compliferating cells. The gene delivery composition comprises a protein chat binds the fibroblast growth factor receptor (FGFR) which is fused or chemically conjugated to a nucleic acid binding domain. The nucleic acid binding domain is complexed with a suitable expression construct encoding a cytotoxin such as saporin. One or more linkers may join the case the conding protein to the nucleic acid binding protein. These are selected to increase the specificity, toxicity, solubility, serum construct condensation of nucleic acids for delivery to a cell. The fusion protein condensation of nucleic acids for delivery to a cell. The fusion protein condensation of nucleic acids for the therapeutic alteration of the function, gene expression and viability of cells. In particular, it may be used for the treatment and prevention of cell proliferative disorders, for example after eye surgery, melanoma and many other sorts of cancer. Crimumatoid arthritis, restenosis, Duptyrren's contracture, diabetic retinopathy, psoriasis and eczema. The gene delivery compositions of the invention have high specificity for particular cells and can deliver are proteins. Al2857 represent cDNA compared to prior art methods. Sequences Al2853-CAL2855 represent cDNA compared to prior art methods. Sequences Al2853-CAL2855 proteins. Al2857 represents cDNA encoding human heparin-binding cepidermal growth factor (HBEGF) procursor, and y90406-y90409 represent cCC.
                                                                                                                        Query Match
Best Local Similarity
Matches 17; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-MAR-1994;
29-AUG-1994;
13-SEP-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Targetted gene delivery; fibroblast growth factor receptor; FGFR-binding protein; nucleic acid binding protein; receptor-internalised ligand; cytotoxin; saporin; gene therapy; cytocide; antiproliferative; cancer; melanoma; diabetic retinopathy; rheumatoid arthritis; restenosis, Dupuytren's contracture; psoriasis; eczema; heaprin-binding epidermal growth factor; HBEGF; vascular endothelial growth factor; VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gene delivery system, useful for treating or preventing cancer and rheumatoid arthritis, comprises receptor-internalized ligand linked nucleic acid binding domain and nucleic acid .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Columns 83-84; 131pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-PSDB; A12853
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                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to a novel gene delivery composition for targetted delivery of cytotoxins or prodrug-converting enzymes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-SEP-1996;
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   128
                                                               CECRPKKDRTKPEKCDKPRR 20
cecrpkkdrarqekcdkprr 147
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                                                                                                                                                                                                                                                                                                             147 AA;
                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94US-0213446.
94US-0213447.
94US-0297961.
94US-0305771.
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                                                                                                                                                                   86.7%;
                                                                                                                                                            Score 104; DB 21;
Pred. No. 5.7e-07;
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Query Match Best Local Similarity

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Score Pred.

104; DB 21; No. 5.7e-07;

Length 147

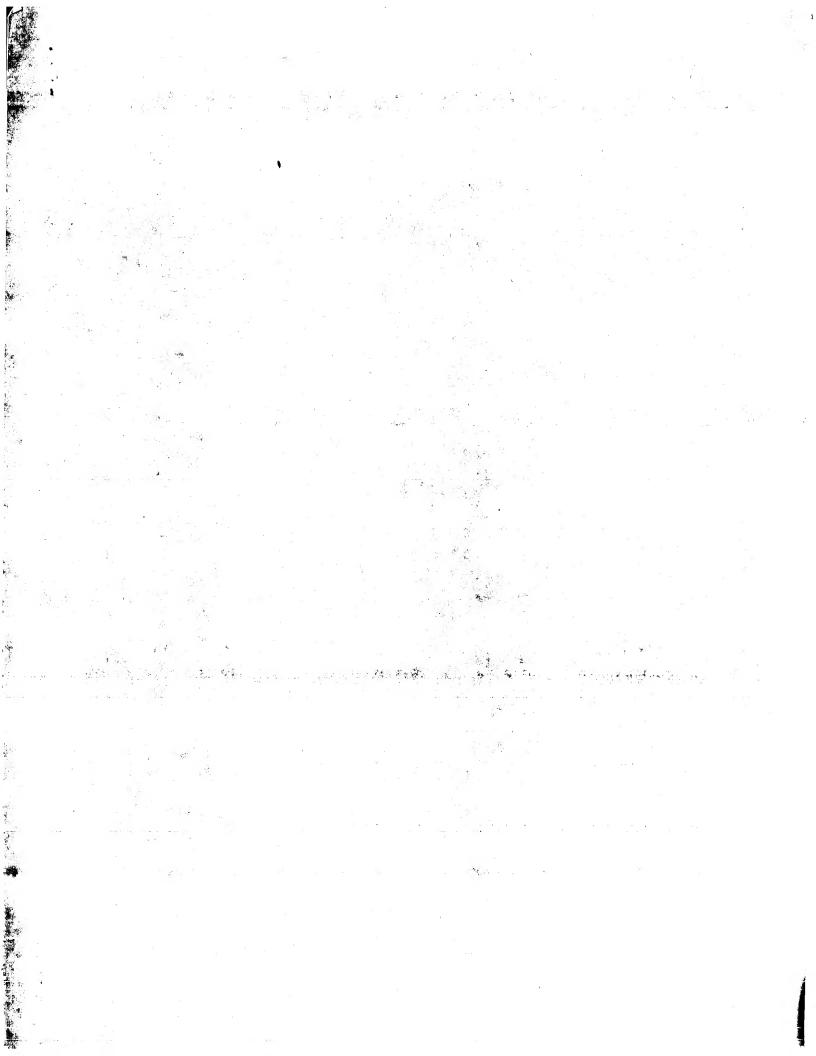
Sequence

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RESULT 14
Y69412
The present sequence represents native human vascular endothelial growth CC factor (VEGF) 121. VEGF is an angiogenic factor. VEGF proteins are used compared to the prevention or repair of injury to blood vessels or associated compared repair of vascular itssues (served by the blood vessels) and for the prevention and repair of vascular injury associated with microvascular angiopathy. CC particularly thrombotic microangiopathy. The proteins methods may also be used for the prevention and treatment of kidney diseases associated compared to the prevention and treatment of the glomerulus and compared to the conditions which may be treated include haemolytic uremic syndrome. To conditions which may be treated include haemolytic uremic compared to the states, platelet activation or aggregation, thrombosis, compressed to transcellar coagulation, sepsis, pancreatis, acute renal failure, conditional infarction, ischemic bowel disease, transient ischemic conditional infarction, acute respiratory distress syndrome to the calvoolar conditions in the conditional conditions. The conditional conditions are syndrome to the calvoolar conditions in the conditions and the conditions are syndrome.
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     acute respiratory distress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable statte; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia, fibrosis; toxic alvectar injury;
                                     endotheijum injury, acute respiratory distress syndrome, toxic al injury, pneumonia, pulmonary emboli, birth prematurity disorders, wounds, allergic reactions, hypersensitivity, autoimmune diseases transplants, focal glomerulosclerosis, and amyloidosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Fig 3; 46pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schreiner GF,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; vascular endothelial growth factor; VEGF 121; angiogenic
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99US-0126406.
'99US-0126615.
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                                                                                                  toxic alveolar
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Administering vascular endothelial growth factor (VGEF) can be used CC Administration of VGEF promotes angiogenesis and/or vascular or capillary permeability. The method is also useful in treating CC capillary permeability. The method is also useful in treating CC cells. Such disorders include the treatment or prevention of kidney CC disease associated with impaired filtration or excretion of kidney CC disease associated with impaired filtration or excretion of kidney CC associated with alterations, and bone growth disorders; treatment or prevention of hypoxia or hypercaphia or fibrosis arising from CC distress syndrome, toxic alveolar injury, pneumonia, infections, and bone growth disorders; treatment or prevention of filed secretions in the lungs, e.g. acute respiratory constitutions of the central nervous system considered intervention, cystic fibrosis; treatment or prevention of pulmonary dysfunction arising from injury, pneumonia, infections, considered intervention of inthe pulmonary prevention of considered intervention of injury to the pulmonary prevention of considered transport of fluid and solutes across the intestinal considered transport of fluid and solutes across the intestinal constitution of ascites accumulation in the peritoneum; enhancement of considered transport of fluid and solutes across the intestinal considered transport of fluid and solutes across the intestinal constitution of ascites accumulation in the peritoneum; enhancement of considered transport of fluid and solutes across the intestinal constitution of ascites accumulation in the peritoneum; enhancement of considered transport of considered transport of fluid and solutes across the intestinal considered transport of consi
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; Z93345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2000-256862/22
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99US-0126406.
99US-0126615.
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                                                                                                                  888888
88888
                                              Query Match 86.7
Best Local Similarity 85.0
Matches 17; Conservative
                                                                                                                                  to alternative splicing of the VGEF RNA transcript unique among the five forms in that it does not bind molecules associated with the extracellular matrix.
                                                                                                               Sequence
128 cecrpkkdrangekcdkprr 147
              1 CECRPKKDRTKPEKCDKPRR
                                                                                                              147 AA;
                                                           86.7%;
                       20
                                                           Score 104; DB 21;
Pred. No. 5.7e-07;
                                                 Mismatches
                                                                       Length 147;
                                               Indels
                                                                                                                                               VGEF121 is
to heparin
                                              0;
                                              Gaps
                                                                                                                                                like
                                              0
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Search completed: November 9, 2000, 15:30:38 Job time: 103 sec



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Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Run on:
    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq
   Issued_Patents_AA:*
1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                         Query
Match
  164575 seqs, 16761186 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-266-543-3
78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              November 9, 2000, 15:33:00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CRTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                           /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5CTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                         Length DB
  US-08-742-243-70

US-08-391-615-5

US-08-807-992B-7

US-08-807-992B-13

US-08-807-992B-16

US-08-807-992B-30
                                                         US-08-567-200A-2
US-08-807-992B-2
US-08-691-794-2
5332671-4
                                                                                                                                                               5194596-17
5219739-17
5219739-18
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5219739-20
                        US-08-807-992B-3
5219739-22
                                                                                                        US-08-569-063C-20
5332671-3
                                                                                                                              US-08-469-427A-15
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   PCT-US96-09001-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Search time 63.67 Seconds (without alignments)
3.422 Million cell updates/sec
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Sequence 70, Appl
Sequence 7, Appli
Sequence 13, Appl
Sequence 13, Appl
Sequence 10, Appl
Sequence 10, Appl
Sequence 10, Appl
Patent No. 5119739
Patent No. 5119739
Patent No. 5119739
Patent No. 5219739
Patent No. 5219739
Patent No. 5219739
Sequence 20, Appl
Sequence 20, Appl
Sequence 2, Appli
Sequence 3, Appli
Sequence 3, Appli
Patent No. 5323671
Patent No. 5323671
Patent No. 532081
Patent No. 532084
Sequence 3, Appli
Patent No. 532084
Sequence 3, Appli
Patent No. 532084
Sequence 10, Appli
Patent No. 532084
Sequence 10, Appli
                                                                                                                                                                                                                                                                    Patent No. Patent No.
                                                                                                                                                                                                                                                                                      Patent No. 5194596
Patent No. 5219739
Sequence 1, Appli
                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                                1, Appli
5194596
                                                                                                                                                                                                                                                                    5219739
                                                                                                                                                                                                                                                                                                                                                                                                                     ;GROWTH FACTOR
; UNMBER OF SEQUENCES: 32
; CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
;SEQ ID NO:19:
                                  ;SEQ ID NO:20:
; LENGTH: :
5219739-20
                                                                                                                                                                                                                                            RESULT 2
5219739-20
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5194596-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;Patent No. 5194596; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN;C.;MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
 Query Match
                                                                                                                                                                                                                                                                                                                                        Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                        Local Similarity hes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 121
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ALIGNMENTS

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;Patent No. 5219739
;APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
;JOHN C.;MITCHELL, RICHARD L.
TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND
;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF
;NUMBER OF SEQUENCES: 40
;CURRENT APPLICATION DATA:
                                                                                                                                                                                                    APPLICATION NUMBER: US/
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 110 RARQEKCDKPRR 121
                                                                                                                     APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         milarity 75.0%;
Conservative
  67.98;
                                                                                                                                                                                                                                               US/07/559,041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 53; DB 5
Pred. No. 0.24;
  Score 53;
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                                                                                                                                                                                                                                                                                                          BVEGF120 AND HVEGF121
  DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 121;
Length 121;
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5194596-9
;Patent No. 5194596
;Patent No. 5194596
;C.;MITCHELL, RICHARD L.
;C.;MITCHELL, RICHARD L.
;TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
US-08-807-992B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 3
US-08-807-992B-1
                                                                                                                                                                                                                                                                                                                                                         Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 75.0%; Pred. No. 0.24; Matches 9; Conservative 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (978) 525-3794 INFORMATION FOR SEQ ID NO: 1:
                                                   NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
COMPUTER: IBM PS/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                     136 RARQEKCDKPRR 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Senger, Donald R APPLICANT: Dvorak, Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          110 RARQEKCDKPRR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                    RTKPEKCDKPRR 13
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No. 602254
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01930
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E: David Prashker, Esq. P.O. Box 5387
                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           single
                                                                                                                                                                 EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                                                                                                                    67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vessel
                                                                                                                                                                                                                                                                                                                                                                  Score 53; I
                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                  DB 3;
0.29;
                                                                                                                                                                                                                                                                                                                                                 2;
                                                                                                                                                                                                                                                                                                                                                                                 Length 147;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
; OTHER INFORMATION: Description of Artificial Sequence: synthesized; OTHER INFORMATION: peptide fragment US-08-742-243-70
                                                                                                                                                                                                                                                                                                                                                                                                         US-08-742-243-70

: Sequence 70, Appli

: Patent No. 6024955
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5219739-9
                                                                                                                   CURRENT APPLICATION NUMBER: US/08/742,24
CURRENT FILING DATE: 1996-10-31
EARLIER APPLICATION NUMBER: 308184/1995
EARLIER FILING DATE: 1995-11-01
NUMBER OF SEQ ID NOS: 70
SOFTWARE: Patentle Ver. 2.0
SEQ ID NO 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5219739-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOHN C., MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN FACTORS, BVEGF120 AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patent No. 5219
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;SEQ ID NO:9:
                                                                                                                                                                                                                                 APPLICANT: Asano, Makoto
APPLICANT: Yukita, Ayako
APPLICANT: Hanatani, Mitsuya
APPLICANT: Matsamoto, Tomoe
APPLICANT: Matsamoto, Masaji
APPLICANT: Okamoto, Masaji
APPLICANT: Suzuki, Hideo
TITLE OF INVENTION: Peptides And Monoclonal Antibodies
FILE REFERENCE: 07898/005001
                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match

Best Local Similarity
Matches 11; Conserv
                                                                                          LENGTH: 12
TYPE: PRT
                                                                ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 40 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        103 CRPKKDKARQEKCDKPRR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                103 CRPKKDKARQEKCDKPRR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/
FILING DATE: 27-JUL-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CRTK----PEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CRTK----PEKCDKPRR 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5219739
                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/08742243A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISCHER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EDMUND G.; ABRAHAM, JUDITH A.; FIDDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66.0%;
61.1%;
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                                                                                                                                                                                                                            US/08/742,243A
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Pred. No. 0.4;
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Query Match

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RESULT ,
US-08-391-615-5
">¬¬uence 5, Ar
RESULT 8
US-08-807-992B-7
Sequence 7, Application US/08807992B
Patent No. 6022541
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                                                                                                                                                                        US-08-391-615-5
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APPLICANT: Witte, Owen

APPLICANT: Saffran, Douglas

APPLICANT: Rawlings, David

APPLICANT: Rawlings, David
                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/391,615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
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                                                                    301 CRLKSSPCDRP 311
                                                                                                                                                                                            TOPOLOGY: 111
                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
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                                                                                         1 CRTKPEKCDKP 11
                                                                                                                            Local
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                                                                                                                Similarity 6; Conserv
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75.0%;
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                                                                                                                         Score 40; DB 1;
Pred. No. 84;
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er, Suite 3400
                                                                                                               Mismatches
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Best Local Similarity
Matches 6; Conser
                                                                                                                                                                                                                                                                                                                                               Sequence 13, Patent No. 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION: TELEPHONE: (978) 525-3794 INFORMATION FOR SEQ ID NO: 7:
                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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APPLICANT: Senger,
APPLICANT: Dvorak,
                                                                                                                                                                                                                                 TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                       STREET: F.C. STREET: Magnolla CITY: Magnolla craff: Massachusetts
                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Diskette,
COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DO
SOFTWARE: WordPerfect of
CURRENT APPLICATION DATA:
                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                APPLICANT: Senger, Donald R
APPLICANT: Dvorak, Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
TYPE: amino acid
STRANDEDNESS: single
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NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: WordPerfect of CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: 'Diskette, 3.50 inch, 1.40 Mb storage
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85.7%;
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3, 1997
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                  version
                                                               3.50 inch, 1.40
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                                                                 Mb storage
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Best Local Similarity
Watches 6; Conservat
                                                                                                       INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
TYPE: amino acid
STRANDENNESS: single
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OPERATING SYSTEM: MS DOS
SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA: US/08/807,992B
FILING DATE: MARCH 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 16,
Patent No. 6
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SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIT
TELECOMMUNICATION INFORMATION:
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MEDIUM TYPE: Diskette, 3.50 inch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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            Local Similarity ies, 6; Conserv
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NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
TELECHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
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       Conservative
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Dvorak, Harold F
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                   50.0%;
85.7%;
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85.7%;
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                   Score 39; I
Pred. No. 4.
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Pred. No.
      Mismatches
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                   DB 3;
4.9;
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GROWTH FACTOR

NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
CURRENT APPLICATION UMBER: US/07/45
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
                                                                                               Patent No. 5194596
PATENT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN; C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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5194596-17
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Best Local Similarity
"-+ches 6; Conserv
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INFORMATION FOR SEQ ID NO: 3(
SEQUENCE CHARACTERISTICS:
LENGTH: 19 anino acids
TYPE: amino acid
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US-08-807-992B-30
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Patent No. 6
                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: Sinc
TOPOLOGY: linear
MOLECULE TYPE: pept:
FRAGMENT TYPE: inter
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NAME: David Preshker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
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TITLE OF INVENTION: 5
TITLE OF INVENTION: 7
TITLE OF INVENTION: 7
NUMBER OF SEQUENCES:
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
CLASSIFICATION: 424
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
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T: P.O. Box 5387
Magnolia
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internal
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85.7%;
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Harold F
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                                                                                                                                                                                                                                                                                                                               Length 19;
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RESULT 13
5219739-17
; PATENT NO. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND
; HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121
; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121
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5219739-18
; Patent No. 5219739
; APPLICANT: TISCHER,
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5219739-17
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5194596-17
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                                                                                                                                5219739-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:17:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 27-JUL-1989; SEQ ID NO:17:
                                                                                                                                               APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:18:
LENGTH: 164
                                                                                                                                                                                                                                                                                                             JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND; HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 50.0
Best Local Similarity 85.7
Matches 6; Conservative
                                   Query Match 50.0%;
Best Local Similarity 85.7%;
Matches 6; Conservative
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 40
CURRENT APPLICATION NATA:
APPLICATION NUMBER: US/(
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA;
                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/07/559,041 FILING DATE: 27-JUL-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              158 RCDKPRR 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                158 RCDKPRR 164
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 7 KCDKPRR 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          50.0%;
85.7%;
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85.7%;
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                                   Score 39; DB 5; Length 164;
Pred. No. 36;
1; Mismatches 0; Indels

    Mismatches

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RESULT 15
5.194596-18.
; Patent No. 5.194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
Search completed: November Job time: 242 sec
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                                                                                                                                                                                                                                          5194596-18
                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
EILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION UMBER: 387,545
APPLICATION UMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:18:
                                                                                                                                                     Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       158 RCDKPRR 164,
                                                                                   159 RCDKPRR 165'
                                                                                                                                                 Local Similarity
nes 6; Conserv
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                                                                                                                     7 KCDKPRR 13 ·
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Pred. No. 36;
1; Mismatches
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Run

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq length: 0 seq length: 2000000000
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Match
   100.0
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1: /cgn2_6/ptodata/
2: /cgn2_6/ptodata/
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/cgn2_6/ptodata/2/1aa/5B_COMB.pep:*
/cgn2_6/ptodata/2/1aa/5_COMB.pep:*
/cgn2_6/ptodata/2/1aa/pCTUS_COMB.pep:*
/cgn2_6/ptodata/2/1aa/backfiles1.pep:*
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5514566-6
US-08-100-744-4
US-08-284-794-4
PCT-US90-08-98-11-4
PCT-US90-08-931-894A-11
US-08-231-894A-13
US-08-231-894A-14
US-08-231-894A-15
US-09-105-678A-49
5464943-6
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US-07-830-330-8
US-08-187-780-3
US-08-478-485-3
5464943-26
US-08-441-629-8
US-08-776-207-8
PCT-US95-09172-8
US-08-325-186-2
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5464943-10
5464943-12
5464943-14
5175147-6
5175147-8
                                                                    5314872-1
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Compugen Ltd
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                                                               Sequence 4, Appli
Sequence 4, Appli
Sequence 1, Appli
Sequence 11, Appli
Sequence 11, Appli
Sequence 13, Appl
Sequence 14, Appl
Sequence 15, Appl
Sequence 49, Appl
Sequence 49, Appl
Patent No. 5464943
Patent No. 5175147
                                                                                                                                                                                                                                                                                    Sequence 4, Appli
Patent No. 5514566
Sequence 4, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 1, Appli
Sequence 8, Appli
Sequence 8, Appli
Sequence 8, Appli
Sequence 2, Appli
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Sequence 8, Appli
Sequence 3, Appli
Sequence 3, Appli
Patent No. 5464943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 1
US-07-830-330-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 9, Application Patent No. 5288704 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Mazue, Guy
TITLE OF INVENTION: SYNERGISTIC COMPOSITION COMPRISING A
TITLE OF INVENTION: FIBROBLAST GROWTH FACTOR AND A SULFATED POLYSACCHARIDE,
TITLE OF INVENTION: FOR USE AS ANTIVIRAL AGENT
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Ungheri, Domenico
APPLICANT: Garziano, Luisa
APPLICANT: Battistini, Carlo
APPLICANT: Carminati, Paolo
APPLICANT: Mazue, Guy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9, Application US/07830330
5. 5288704
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Result

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29
112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112
97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4
155	155	155	155	155	155	155	155	155	155	155	155	155	155	154	154	154
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5514566-8	us-09-103-079-10	US-08-951-822-28	US-08-438-439C-14	US-08-867-471-10	US-08-462-169B-10	US-08-325-632-1	US-08-439-725A-10	US-08-177-502-4	US-08-177-502-2	US-07-842-177A-1	US-08-023-757-4	US-08-023-757-2	US-07-959-369-6	PCT-US91-02186-6	US-08-325-186-1	US-08-438-439C-24
Patent No. 5514566	Sequence 10, Appl	Sequence 28, Appl	Sequence 14, Appl	Sequence 10, Appl	Sequence 10, Appl	Sequence 1, Appli	Sequence 10, Appl	Sequence 4, Appli	Sequence 2, Appli	Sequence 1, Appli	Sequence 4, Appli	Sequence 2, Appli	Sequence 6, Appli	Sequence 6, Appli	Sequence 1, Appli	Sequence 24, Appi

ALIGNMENTS

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; LENGTH: 24 anino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FRAGMENT TYPE: internal
US-07-830-330-9
                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5288704man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 769-230-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)521-4500
TELEPAX: (703)486-2347
TELEEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
  Query Match
Best Local Sim
Matches 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSIEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: OBLON,
ADDRESSEE: P.C.
STREET: 1755 Jeff
CITY: Arlington
STATE: Virginia
ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US
FILING DATE: 19920420
CLASSIFICATION: 424
                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1755 Jefferson Davis Highway, Fourth Floor
    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OBLON, SPIVAK, McCLELLAND,
100.0%; Score 115; DB 1; 100.0%; Pred. No. 1.9e-10 tive 0; Mismatches 0
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                                         Length
    Indels
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US-07-830-330-8
                                                                                                   Sequence 3, Application US/08187780 Patent No. 5459250
                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)521-4500
TELEPAX: (703)486-2347
TELEPX: 24885 OPAT UR
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
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Best Local :
                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No.
APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
TITLE OF INVENTION: MAMMALII
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5288704man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 769-2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/830,330
FILING DATE: 1920420
CLASSIFICATION: 424
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Mazue, Guy
TITLE OF INVENTION: SYNERGISTIC COMPOSITION COMPRISING A
TITLE OF INVENTION: FIBROBLAST GROWTH FACTOR AND A SULFATED POLYSACCHARIDE,
TITLE OF INVENTION: FOR USE AS ANTIVIRAL AGENT
NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
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                                                                                                                                                                                                                                                                               Match 100.0%;
Local Similarity 100.0%;
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                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10. 5288704
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                   AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/07830330
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                                                                                                                                                                                                                                                                                                                                                                                                                              28 amino acids
                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3: P.C.
1755 Jefferson Davis Highway, Fourth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Garofano, Luisa
Battistini, Carlo
Carminati, Paolo
                                                                                                                                                                                                                                                                                                                                                                                                     linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT
                                 MAMMALIAN GROWTH FACTOR
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Pred. No. 2.3e-10;
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                                                                                                                                                                                                                                                                                           Length 28;
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                                                                       Best Local
Matches
                                                                           Query Match
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FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/177,506
FILING DATE: Aprl1 4, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: June 16, 1987
AFTORNEY/AGENT INFORMATION:
NAME: Howard M. Frankfort
REGISTRATION NUMBER: 32,613
REFERENCE/DOCKET NUMBER: 5986/13586-US3
TELEPHONE: (212) 527-7700
TELEPAN: (212) 753-6237
TNEORMATION FOR STO TO NO. 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 145
                                                                                                                                                                                                                                                                                                                                                           PUBLICATION AUTHORS:
100 SNNYNTYRSRKYSSWYVALKR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                             IDENTIFICATION METHOD:
OTHER INFORMATION: Thi
OTHER INFORMATION: COR
OTHER INFORMATION: 970
OTHER INFORMATION: pag
OTHER INFORMATION: pag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/187,780 FILING DATE: January 25, 1994 CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 incl
MEDIUM TYPE: J860 Kb storage
COMPUTER: IBM OF IBM-compatible
OPERATING SYSTEM: PC/MS-DOS
                                                                                                                                                                                                                                                                   ISSUE:
PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                         FILING DATE:
PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID
                                                                                                                                                                                                                                                                                                                         TITLE:
JOURNAL:
                    1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Darby
STREET: 805 Third
CITY: New York
STATE: New York
                                                                                                                                                                                                                                   DOCUMENT NUMBER
                                                                                                                                                                                                                                                                                                            VOLUME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DESCRIPTION:
                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Durby & Darby P.C.
5 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein
                                                              100.0%; Score 115; DB 1; 100.0%; Pred. NO. 1.2e-09; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                           This sequence, corresponding to bovine basic fibroblast growth factor, can be found in Table 1, page 9, lines 9, 14, and 19, in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5.25 inch,
                                                                                                                                                                            NO:
                                                                                                 Length 145;
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                                                            Gaps
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US-08-478-485-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/187,780
FILING DATE: January 25, 1994
APPLICATION NUMBER: 07/901,705
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/17,506
FILING DATE: April 4, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: June 16, 1987
ATTORNEY/AGENT INFORMATION:
NAME: JOSEPH R. ROBINSON
REGISTRATION NUMBER: 33,448
REFERENCE/DOCKET NUMBER: 5986/13:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (212) 527-7700
TELEFAX: (212) 753-6237
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 145
TENGTH: 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy Diskette,
MEDIUM TYPE: 1.44 MB storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                             OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: CLAUDIO BASILICO APPLICANT: DANIELA TALARICO TITLE OF INVENTION: MAMMALII
                                                                                                                                                                  TITLE:
JOURNAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC/MS-DOS SOFTWARE: Wordperfect 5.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: Concurrently Herewith CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/478,485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                       DESCRIPTION:
                     FILING DATE:
PUBLICATION DATE:
                                                              DOCUMENT NUMBER:
                                                                                                                              ISSUE:
                                                                                                                                                                                                           AUTHORS:
                                                                                                                                                                                                                                                                                                                                                      IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
RELEVANT RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New York
: New York
RY: USA
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805 Third Avenue
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                                                                                                                                                                                                                                                                This sequence, corresponding to bovine basic fibroblast growth factor, can be found in Table 1, page 9, lines 9, 14, and 19, in the
                                                                                                                                                                                                                                               application, as filed.
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  1-145
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RESULT 5
5464943-26
; Patent No. 5464943
; APPLICANT: SENOO, MASAHARU; SASADA, REIKO; IGARASHI, KOICHI
; TITLE OF INVENTION: DNA ENCODING GLYCOSYLATED FGF AND
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NUMBER OF SEQUENCES: 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO:26:
                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4, Application PC/TUS9102186
GENERAL INFORMATION:
APPLICANT: California Biotechnology Inc.
APPLICANT: Inventors: Thompson, Stewart A.
APPLICANT: Abraham, Judith A.
TITLE OF INVENTION: High Level Expression of Basic
TITLE OF INVENTION: Fibroblast Growth Factor Having a Homogeneous
TITLE OF INVENTION: N-terminus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
            APPLICATION NUMBER: PCT/US91/
FILING DATE: 19910702
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MUTASHIGE, Kate H.
REGISTRATION: NUMBER: 29,959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/27
EILING DATE: 15-JUL-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 7,089
FILING DATE: 19-JAN-1993
APPLICATION NUMBER: 511,469
                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Irell & Manella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100 SNNYNTYRSRKYSSWYVALKR 120
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Local Similarity 100.0%;
hes 21; Conservative 0
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                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 146
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 SNNYNTYRSRXYSSWYVALKR 21
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                                                                                                                                                                                                                                                                                           California
                                                                                                                                                                                                                                                                                                                               545 Middlefield Road, Suite 200
                                                                                                                                                                                                                                                                         USA
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Pred. No. 1.2e-09;
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Pred. No. 1.2e-09;
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RESULT 7

5514566 6
; Patent No. 5514566
; APPLICANT: FIDDES, JOHN C.; ABRAHAM, JUDITH A.
; TITLE OF INVENTION: METHODS OF PRODUCING RECOMBINANT
; FIBROBLASTS GROWTH FACTORS
; NUMBER OF SEQUENCES: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , LENGTH: 155
5514566-6
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                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/08100744 Patent No. 5563046
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                         08-100-744-4
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Best Local Similarity 100.
Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                            APPLICANT: CARRILLO, PEDRO A.
TITLE OF INVENTION: POLYPEPTIDE FUSIONS TO
TITLE OF INVENTION: INTERLEUKIN-1-LIKE POLYPEPTIDES
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: 415-327-7250 INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/417,022
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             109
                                                                                       COUNTRY: USA
ZIP: 94304-1018
                                                                                                                        ADDRESSEE: MORRISON & FOERSTER
STREET: 755 Page Mill Road
CITY: Palo Alto
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 SNNYNTYRSRKYSSWYVALKR 21
|||||||||||||||||||||||||
109 SNNYNTYRSRKYSSWYVALKR 129
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 155 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 809,163
FILING DATE: 16-DEC-1985
APPLICATION NUMBER: 775,521
FILING DATE: 12-SEP-1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 155 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SNNYNTYRSRKYSSWYVALKR 129
                                                                                                                                                                                                                                                                              OLSON, PAMELA
OLSEN, DAVID
                                                                                                                                                                                                                                                                                                                                  MASCARENHAS, DESMOND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 115; DB 5; 100.0%; Pred. No. 1.3e-09; Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
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Pred. No. 1
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Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 155;
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RESULT 9
US-08-284-784-4
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                                    TELEFAX: (415) 494-0792
TELEX: 706141
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-100-744-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4, Applica
Patent No. 5629172
                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: PARK, FREDDIE K.
REGISTRATION NUMBER: 35,636
REFERENCE/DOCKET NUMBER: 2209
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                      COUNTRY: USA:
ZIP: 94304-1618
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEN PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 132 unino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: EXPRESSION OF
TITLE OF INVENTION: TRANSPORTED OU
NUMBER OF SEQUENCES: 44
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                     APPLICATION NUMBER: US/0
FILING DATE: 02-AUG-1994
CLASSIFICATION: 530
TYPE: amino acid
STRANDEDNESS; sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFONMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
TELEFAX: (415) 494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/0
FILING DATE: 1.02-AUG-1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 755 Fage Mill Road CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            86 SNNYNTYRSRKYTSWYVALKR 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
mes 20; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: LUTHER, BARBARA J.
REGISTRATION NUMBER: 33,954
REFERENCE/DOCKET NUMBER: 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/08284784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 706142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZHANG, YANG
OLSON, PAMELA S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             132 umino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CARRILLO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OLSEN, DAVID R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MASCARENHAS, DESMOND
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95.2%;
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                                                                                                                                                        22095-20275.20
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Pred. No. 2.9e-09;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 132
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                                                                                                                         TOPOLOGY: US-08-854-811-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 20; Conserv
                                                                  Query Match
Best Local Similarity
                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Applic Patent No. 5914254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 94304-1018
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: 22
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-813-5600
                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 08/284,784
FILING DATE: 08-AUG-1994
APPLICATION NUMBER: 08/100,744
FILING DATE: 02-AUG-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0:
FILING DATE: 12-MAY-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                             TELEFAX: 000
TELEFAX: 706141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: /JJ
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OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 SNNYNTYRSRKYSSWYVALKR 21
|||||||||||||1|||
86 SNNYNTYRSRKYTSWYVALKR 106
                                                                                                                                                     TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM: Windows SOFTWARE: FastSEQ for Windows Version 2.0b
86 SNNYNTYRSRKYTSWYVALKR 106
                                                                                                                                                                                                                                                                                     NAME: Buffinger, Nicholas S
REGISTRATION NUMBER: 39,124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                    SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/08854811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Olsen, David R. Cohen, Pedro A.
                                                                                                                                                                                                                                    650-494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Olson, Pamela S.
                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zhang, Yang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mascarenhas, Desmond
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                                                                                                                                       linear
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                                                                                                                                                     single
                                                                 97.4%;
95.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EXPRESSION OF FUSION POLYPEPTIDES TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER
                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/854,811
                                                                                                                                                                                                          4:
                                                    Score 112; DB 2;
Pred. No. 2.9e-09;
1; Mismatches (
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Pred. No. 2.9e-09;
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                                                      0
                                                                                 Length 132;
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                                                      Gaps
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RESULT 12
US-08-231-894A-11
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GENERAL INFORMATION:
APPLICANT: Baird, J. A.
                                                                                                                                                                                                                                                                                   Sequence 11, Application US/08231894A Patent No. 5851990, GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO:
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: Au 186/C1 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/443,939
FILING DATE: 30-NOV-1989
ATTORNEY/AGENT INFORMATION:
NAME: 55------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: Chicago
CITY: Chicago
TTATE: Illinois
                                                                                                                                         NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: & CUSHMAN
STREET: 130 WATER STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Hajjar, David P.
TITLE OF INVENTION: Treatment of HSV
NUMBER OF SEQUENCES: 2
                                                                                                                                                                                                                        APPLICANT: FUJISHIMA, AKIKA APPLICANT: FUKUDA, TSUMEHIKO TITLE OF INVENTION: BFGF MUT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 157 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER: 20856
REFERENCE/DOCKET NUMBER: 50
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619)552-1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                111 SNNYNTYRSRKYTSWYVALKR 131
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                       COUNTRY: US
ZIP: 02109
                                                                                          STATE: MASSACHUSETTS COUNTRY: US:
                                                                                                                              CITY: BOSTON
                                                                                                                                                                                                                                                                                                                                                                                                                               1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: Fitch, Even, Tabin & Flannery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (619)552-0095
TD NO: 1:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19901129
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95.28;
                                                                                                                                                                                                                                   BFGF MUTEIN AND ITS PRODUCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PCT/US90/06962
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Best Local Similarity 95.2
20; Conservative
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Patent No. 5851990
                                                                                                                                                                                                                                                                                                                                                                                                                                      08-231-894A-13
                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (617) 523-6440
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                              SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-WAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: APPLICATION:
                                                                                                                                                                   COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HYPOTHETICAL: NO ANTI-SENSE: NO FRAGMENT TYPE: 1: ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                        APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVERTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
                                                                                                     COMPUTER: IBM COMPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 41769-FWC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
TELEPAX: (617) 523-6440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100 SNNYNTYRSRKYTSWYVALKR 120
 APPLICATION NUMBER:
                                 CLASSIFICATION:
                                                                                                                                                 MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
GIAGGETTATION: APPR-1992
                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                      CITY: BOSTON
                                                                                                                                                                                                                                                    STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 SNNYNTYRSRKYSSWYVALKR 21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                      02109
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                                                                                                                                                                                                                 MASSACHUSETTS
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RESNICK, DAVID S.
14235
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    146 amino acids
                                                                                                                                 IBM Compatible
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                                                                                                                                                     Diskette
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97.4%; Score 112;
95.2%; Pred. No. 3
US 07/873907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/231,894A
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RESULT 14
US-08-231-894A-14
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                                                           COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTMARE: FastSEQ Version 1.5
SOFTMARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
TO 077655-1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 14, Application US/08231894A Patent No. 5851990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
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Best Local Similarity
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PRIOR APPLICATION NUMBER: JP 066381-1992
APPLICATION NUMBER: JP 066381-1992
FILING DATE: [24-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.

NAME: ABSNICK, DAVID S.

1750-FWC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: FUJISHIMA, AKIRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (617) 523-6440
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                           COUNTRY: US
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
               FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: 6. CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FRAGMENT TYPE: internal ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: pi
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 SNNYNTYRSRKYTSWYVALKR 120
                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                 STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 SNNYNTYRSREYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 24-APR-1992
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: JP 0:
FILING DATE: 26-APR-1991
                                                                                                                                                                                                                                                                                                                                                                           MASSACHUSETTS
                                                                                                                                                                                                                                                                                                                                                                                                               130 WATER STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97.4%; Score 112; 95.2%; Pred. No. :
                                                   JP 097655-1991
                                                                                                                                                                                                       US/08/231,894A
JP 066381-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JP 097655-1991
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Db
. 3.2e-09;
0;
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Gaps

ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.

24-MAR-1992

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RESULT 15
US-08-231-894A-15
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; ORIGINAL SOURCE:
US-08-231-894A-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 15, Application US/08231894A Patent No. 5851990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 97.4%; Score 112; DB 2; Best Local Similarity 95.2%; Pred. No. 3.2e-09; Matches 20; Conservative 1; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUJISHIMA, TSUNEHIKO
TITLE OF INVENTION: BEGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: 6 CUSHMAN
ADDRESSEE: 6 CUSHMAN
                                                                                                                                                         FILING DATE: 22-APR-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 07/873907
FILING DATE: 24-APR-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
ABBITATION UMBER: JP 066581-1002
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41769-FWC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (617) 523-6440 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: RESNICK, DAVID S. REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231,
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: peptide HYPOTHETICAL: NO ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100 SNNYNTYRSRKYTSWYVALKR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: MASSACHUSETTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 130 CITY: BOSTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       146 amino acids
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; FRAGMENT TYPE: 1; ORIGINAL SOURCE:: US-08-231-894A-15
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                                                              Ouery Match 97.4%; Score 112; DB 2; Best Local Similarity 95.2%; Pred. No. 3.2e-09; Matches 20; Conservative 1; Mismatches 0
                                                                                                                                                                                                                                                                                                               TELEFAX: (617) 523-6440 INFORMATION FOR SEQ ID NO: 1 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                               TENGTH: 146 amino acid
TYPE: amino acid
STRANDEDNESS: 'single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
100 SNNYNTYRSRKYTSWYVALKR 120
                 1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                 146 amino acids
                                                                                                                                                                                 internal
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                                                                 0;
                                                                                             Length 146;
                                                               Indels
                                                               0;
                                                               Gaps
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0

Search completed: November 9, 2000, 15:33:00 Job time: 241 sec

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Result
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein - protein search, using sw model
                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                             Score
   Match
 88
88
88
67
67
67
67
67
                                                                                                                                                                                                                                                                                                                                                                                                    | SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1983.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1983.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1987.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1989.DAT:*
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| SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT:*
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Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    268485 seqs, 34193795 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-266-543-3
78
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CRTKPEKCDKPRR 13
                                                                                                                                                                                                                                             Length
 12
121
121
121
121
121
146
147
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   120
20
20
20
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R22348
R27354
W53640
Y57029
Y23944
R11385
R42607
Y23943
Y08278
Y33438
R91075
                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search time 94.87 Seconds (without alignments)
4.686 Million cell updates/sec
             Alternative form o Sequence of vascular endotheli vascular endotheli vEGFA 146 amino ac Peptide derived fr Human vascular end Human vEGF-121. H Amino acid sequenc Human growth facto Parapox virus VEGF Human vascular end
                                                                                                                                                                                                                                         Description
   VEGF121.
 Homo sap
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RESULT R22348

R22348 standard; Protein; 146 AA.

29-JUL-1992 (first entry)

R22348;

9	9	9	9	9	9	9	9	9	0	0	0	0	0	0	5	5	5	0	ω	ω 6	3	3	ω 6	3	ω 6	ω	ω	3	ω	3	53 67	ω σ
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					14	12	21	14	17	21	21	19	19	19	20	14	12	20	17	17	17	17	17	17	17	17					7 21	
108	W31086	108	N	091	R38920	R10911	Y43722	R36680	R94538	Y59621	Y57679	W53449	W55956	W74693	Y33437	R38916	R10916	Y07724	W00594	R94073	W00590	W00588	W00589	W00587	R94071	W00586	R94032	403	Y83033	941	040	W62524
Vascular	Vascular	Vascular	Human VI	Human va		Bovine v	Amino ao	Guinea I	Drosophila	Vascular	Human vascular	Vascular		Amino ao	Parapox		Bovine v	Human VI	SAP(Gly4Ser	SAP(Gly	SAP-Alal	SAP-Ala	SAP-Alai	SAP(Gly	SAP(Gly	SAP-Alan	VEGF121	VEGF121	Human va	0	VEGF end	Amino ac
r endotheli		endothel		vascular end	VEGF-164.		sequen		11a Src28C		ascular end	r endotheli	vascular per	acid sequenc	Parapox virus VEGF	VEGF-120.	vascular en	VEGF protein	4Ser)2VEGF1	SAP(Gly4Ser)VEGF12	AlaMet-VEGF121	AlaMet-VEGF121	Alamet-VEGF121	4Ser)4VEGF1	4Ser)VEGF12	Ħ	Cys+2. Ho	Cys+4. Ho	C	ęg,	ed by c	m .

ALIGNMENTS

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ZZZXEXI
Bayne ML, Conn GL, Thomas KA;
                                      21-SEP-1990;
21-SEP-1990;
                                                                                                                                                 Protein
                                                                                                                                                                              Key
                                                                                                                                                                                                  Rattus.
                                                                                                                                                                                                                   Rat glioma cell; GS-9L; conditioned medium; heterodimer; VEGF-II; homodimer; mitoyenesis; vascular repair; blood vessel implant; polymerase chain reaction; alternative splicing.
                                                                                                                                                                                                                                                            Alternative form of VEGF mature A-subunit with 120 amino acids.
                                                                    18-SEP-1991;
                                                                                                          EP476983-A.
                  (MERI ) MERCK & CO INC
                                                                                        25-MAR-1992
                                                                                                                                                                    Peptide
                                      90US-0586640
90US-0586638
                                                                    91EP-0308489
                                                                                                                                                                    Location/Qualifiers 1..26
                                                                                                                                                /label= signal
27..146
                                                                                                                             /label= VEGF_A-subunit
/note= "120 amino acids long"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 12
  The full length coding region of the A subunit or monomer of VEGF is determined from three sets of overlapping cDNA clones. Degenerate oligo. primers based on the amino acid sequences Phe-Met-Asp-Val-Tyr-Gln from polypeptide L42 (residues 42-47) and
                                                            Disclosure; Fig 4; 61pp;
                                                                                      Vascular endothelial cell growth factor sub-units - vascular endothelial cell growth, used for inducing
                                                                                                                                                                  Bayne ML,
                                                                                                                                                                                     (MERI ) MERCK & CO INC.
                                                                                                                                                                                                            28-MAR-1991;
                                                                                                                                                                                                                                 27-MAR-1992;
                                                                                                                                                                                                                                                        30-SEP-1991.
                                                                                                                                                                                                                                                                              EP506477-A.
                                                                                                                                                                                                                                                                                                     Rattus.
                                                                                                                                                                                                                                                                                                                    Vascular development; mitogen; blood vessel; vascular endothelial growth factor; neovascu
                                                                                                                                                                                                                                                                                                                                                         Sequence of 146 amino ac
                                                                                                                                                                                                                                                                                                                                                                                                                                R27354 standard; Protein; 146 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Multiple cDNAs encoding alternative forms of the VEGF A-subunit were amplified using PCR primers as in Q23049 and Q23050. Three sets of clones were identified. Clone #12 encoded the 164 amino acid deletion and thus encodes a 120 amino acid form and Clone #16 has a 135 bp 72bp insertion and encodes a 120 amino acid form and Clone #16 has a The deleted region lies between the second base of the Asn140 codon protein has Asn140 converted to Lys140.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 9; Page 14 and Fig 4; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vascular endothelial cell growth factor II - used as artificial blood vessels or to promote tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1992-098641/13
N-PSDB; Q23039.
                                                                                                                                         1992-325745/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rtkpekcdkprr 146
                                                                                                                                   Q28953.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 100.
12; Conseawative
                                                                                                                                                                Thomas KA;
                                                                                                                                                                                                                                                                                                                                                        of vascular endothelial cell growth factor VEGF A acid residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146 AA;
                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                           91US-0676436
                                                                                                                                                                                                                               92EP-0302750
                                                                                                                                                                                                                                                                                                                                                    residue subunit.
                                                                                                                                                                                                                                                                                                                growth factor; neovascularisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88.5%;
                                                            English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 69;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
L42 (residues 42-47) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 13; L
0.0031;
thes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                               which stimulate
                                                                                      tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                coating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
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RESULT
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ID W5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 12
    The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, was the deletion of His 141 to Arg 184 from the wild-type given in comprising an A subunit from w33639. The present invention describes: (1) a mammalian VEGF II protein from w33639, w33639 or the first 115-135 amino acids of w33638; and a B subunit a mammalian VEGF comprising a heterodimer or homodimer of B subunits. The growth factor is used for promoting vascular development and repair N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                                                                                                                                                                                                                                                                                                                                                        31-AUG-1994;
21-SEP-1990;
05-JAN-1993;
                                                                                                                                                                                          Claim 1; Page -; 46pp; English.
                                                                                                                                                                                                                            Vascular endothelial growth factor proteins - having specified A and
                                                                                                                                                                                                                                                                      WPI; 1998-206007/18
                                                                                                                                                                                                                                                                                                  Bayne ML,
                                                                                                                                                                                                                                                                                                                           (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                  31-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                               10-MAR-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US5726152-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mitogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vascular endothelial growth factor II A subunit variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used to PCR amplify the central region of the cDNA for VEGF A chain. A single band migrating at 420 bp was gel purified, digested with Sall, ligated into pGEM3Zf(+) and sequenced. The nucleotide sequence coatained (p438) was used to design antisense and sense PCR primers are denoted p5-15 and pw3, respectively. In addition to the cDNA coding the 164 amino acid secreted form identified by protein sequencing, two alternatively spliced cDNAs encoding a 146 amino acid and a 214 amino acid forms are cloned and sequenced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        W53640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W53640 standard; Protein; 146 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      endothelial cell growth factor; VEGF II; rat; glioma cell;
sis; blood vessel growth; artificial blood vessel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                             Conn GL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                       94US-0299185.
90US-0586638.
93US-0000834.
                                                                                                                                                                                                                                                                                                                                                                                                                94US-0299185
                                                                                                                                                                                                                                                                                               Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        88.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 69;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 13;
. 0.0031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 146;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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Sequence

146 AA;

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RESULT
Y23944
ID Y2
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                                                                                                                Query Match
Best Local :
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Best Local Similarity
Matches 12; Conser
                                                                                                     Matches
                                                                                                                                                                        This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF C subunit amino acid sequence Y57025. VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or EC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US5994300-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEGF; vascular endothelial vascular development; artif
         Y23944 standard; peptide;
                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                        Disclosure; Fig 3; 58pp; English.
                                                                                                                                                                                                                                                                                                                            Purified and isolated vascular endothelial cell growth factor C subunit for the induction of tissue repair or growth - \,
                                                                                                                                                                                                                                                                                                                                                                                            Thomas KA,
                                                                                                                                                                                                                                                                                                                                                                                                                                      28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                 (MERI ) MERCK & CO INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VEGFA 146 amino acid residue subunit sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-FEB-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Y57029 standard; Protein; 146 AA
                                                             135
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                              σ
                                                           rtkpekcdkprr 146
                                                                                 RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                             2000-038268/03.
)B; Z39827.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rtkpekcdkprr 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RTKPEKCDKPRR 13
                                                                                                     l Similarity
12; Conserv
                                                                                                                                                         146 AA;
                                                                                                                                                                                                                                                                                                                                                                                            Bayne ML;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88.5%; So illarity 100.0%; I Conservative 0;
                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                      91US-0676436
                                                                                                                                                                                                                                                                                                                                                                                                                                                          93US-0124259
                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         elial growth factor; A subunit; tissue growth; artificial blood vessel; repair; human.
           12
                                                                                                               Score 69;
Pred. No.
                                                                                                     ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      core 69; DB 19;
Pred. No. 0.0031;
Mismatches 0;
                                                                                                    Mismatches
                                                                                                                DB 21;
0.0031;
                                                                                                      0
                                                                                                                         Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 146;
                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                     0;
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                                                                                                                                                                                                                                                                         RESULT
R11385
В
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                                                                                                                                                                                                                                          R11385;
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Query Match
Best Local S
Matches 9
                                                                                                                                    WO9102058-A.
                                                                                                                                                                                               Bovine vascular endothelial cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                present in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence is derived from vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to "VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121
Tischer ER,
                                                                                                                                                                                                                       Human vascular endothelial cell growth factor 121.
                                                                                                                                                                                                                                                08-MAY-1991
                                                                                                                                                                                                                                                                                               R11385 standard; Protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 1; Page 5; 6pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New VEGF121-specific monoclonal antibody - levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1999-437318/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-JUL-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JP11178593-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vascular endothelial growth factor; VEGF; VEGF 121; monoclonal antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide derived from vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Y23944;
                                               14-DEC-1989;
27-JUL-1989;
                                                                                   27-JUL-1990;
                                                                                                            21-FEB-1991.
                                                                                                                                                                                  wound healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (FJRE ) FUJIREBĮO KK.
                       (CALB-) CALIF BIOTECHN INC.
                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity nes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                         1 rarqekcdkprr
                                                                                                                                                                                                                                                                                                                                                                         RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12 AA;
                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                            (first entry)
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Ab::hamam,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97JP-0365972
                                                                                   · 90WO-US04227
                                                                                                                                                                                    'AVEGF; PDGF.
                                               39US-0450883
39US-0387545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97JP-0365972
                                                                                                                                                                                                                                                                                                                                                               12
                                                                                                                                                                                                                                                                                                                                                                                                                       67.9%;
75.0%;
 Fiddes
                                                                                                                                                                                                                                                                                                                                                                                                             Score 53; DB
Pred. No. 0.06
1; Mismatches
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                                                                                                                                                                                                                                                                                                 8
 'n,
                                                                                                                                                                                                growth factor; angiogenesis;
 Mitchell
                                                                                                                                                                                                                                                                                                                                                                                                                          DB 20;
0.068;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               useful
                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for measuring
                                                                                                                                                                                                                                                                                                                                                                                                              0
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DNA encoding vascular producing the factor f

1991-073534/10. DB; Q11099.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The two forms of VEFG (010797 and 010917) which arise through different message splicing, have different properties. In partic. CC hyEGF121 does not bind to heparin leaving more of the protein free to the protein in circulation, whereas hBEGF165 binds haparin strongly. CC of inner vascular surfaces in wound healing, e.g. treatment of full-CC unlers, burns, in surgery, in balloon angioplasty and for the in CC vitro culturing of endothelial cells. HyDrid growth factors of PDGF can be used for wound really profile between each factor and CC end vege can exhibit a mitogenic profile between each factor and CC e.g. preventing the growth of tumours.

CC VEGF analogues in which CXS residues are substd. are more stable. XXX
                                                27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
   Abraham JA,
                           (SCIO-) SCIOS
                                                                                                                                     US5219739-A.
                                                                                            27-JUL-1989;
                                                                                                                 15-JUN-1993
                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                         Vascular
                                                                                                                                                                                                                                                                                                       Human VEGF-121
                                                                                                                                                                                                                                                                               Angiogenesis; wound
                                                                                                                                                                                                                                                                                                                               28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                        R42607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                         110 rarqekcdkprr 121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 75. hes 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                             2 RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                              7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 wound healing
                                                                                                                                                                                                                                                                                                                                                                    standard; Protein; 121 AA.
                                                                                                                                                                                                                                                                       Endothelial
    Fiddes JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 AA;
                           NOVA INC.
                                              89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                                                                                                                                           (first
                                                                                          89US-0387545
                                                                                                                                                                                            /note= "inserted amino acid relative to bVEGF"
115
                                                                                                                                                                     /note= "Lys 115 of hVEGF-121 is replaced by 44
                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                            healing; mitogen; vascular endothelial cells; Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                          entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  r endothelial cell growth factor - used for for angiogenesis and re-endothelialisation
                                                                                                                                                 amino acids encoded by an alternativel spliced exon in hymor-165 (see R38921)
    Mitchell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 53;
Pred. No.
   RĽ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
Tischer EG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 12;
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RESULT
Y23943
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Best Local 9
                      The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121
Sequence
                                                                                    Disclosure; Page 5; 6pp; Japanese.
                                                                                                           New VEGF121-specific monoclonal antibody - useful levels of VEGF121
                                                                                                                                                    WPI; 1999-437318/37.
                                                                                                                                                                          (FJRE ) FUJIREBIO KK.
                                                                                                                                                                                                    24-DEC-1997;
                                                                                                                                                                                                                           24-DEC-1997;
                                                                                                                                                                                                                                                    06-JUL-1999.
                                                                                                                                                                                                                                                                          JP11178593-A.
                                                                                                                                                                                                                                                                                                                   Vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                   Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                         21-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                            Y23943 standard; peptide; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                 Y23943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hyeger-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hyeger (see R42607). The full-length coding sequences can be generated using PCR with human foetal vascular smooth muscle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Isolated DNA sequences, expression vectors and transformant cells used for large scale prodm. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110 rarqekcdkprr 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 3; Fig 7; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1993-205302/25
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les 9; Conserv
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                   a sample
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 .AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                          ·$7JP-0365972.
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75.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 53; DB 14;
Pred. No. 0.54;
1; Mismatches 2
                                                                                                                                                                                                                                                                                                                   VEGF;
                                                                                                                                                                                                                                                                                                            VEGF 121; monoclonal antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 121;
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Query Match Best Local Similarity

67.9%; 75.0%;

Score 53; Pred. No.

DB 20; 0.54;

Length 121;

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RESULT
Y33438
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Best Local Similarity
"-+rhes 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                      This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2955). Y08278-Y08301 are human growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Growth factor; pharmaceutical
D1701; vascular endothelial growth factor; PPV-VEGF; angiogenesis; endothelial cell proliferation; gene therapy; diagnostic; tissue repair;
                                                                            13-DEC-1999
                                                                                                                                      Y33438
                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                            protein fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 14; Page 7; 14pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Preparing active growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1999-278785/24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG MBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Y08278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y08278 standard;
                                           Parapox virus VEGF growth factor homologue protein fragment 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                110
                                                                                                                                                                                                               110 rarqekcdkprr 121
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                                                                                                                                                                                                                                     RTKPEKCDKPRR 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RTKPEKCDKPRR 13
                                                                                                                                      standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kaerst U,
                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human; dimer; cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97DE-1048734.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97DE-1048734.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein;
                                                                                                                                      Protein; 146
                                                                                                                                                                                                                                                                                   67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mueller
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              factor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ۲.
                                                                                                                                                                                                                                                                                     Score 53; I
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             dimers from inclusion bodies in
                                                                                                                                                                                                                                                                       Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rinas
                                                                                                                                                                                                                                                                                   DB 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                       2; Indels
                                                                                                                                                                                                                                                                                                 Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H
                                                                                                                                                                                                                                                                     0;
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                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
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Best Local Similarity
"~+~hes 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R91075
                                                                                                                                                                                                                                                                                                                                                             RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       compositions for therapeutic or diagnostic use, e.g. for stimulating angiogenesis or tissue repair or for immunomobulation, e.g. by stimulating endothelial cell proliferation or inhibiting dendritic cell differentiation. Nucleic acids encoding the polypeptide can be used in pharmaceutical compositions for DNA vaccination or gene therapy. This sequence represents a protein fragment of a parapox virus D1701 vascular endothelial growth factor (VEGF) homologue.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This invention describes a novel polypeptide that is a parapox virus homolog of human vascular endothelial growth factor (PPV-VEGF) and stimulates endothelial cell proliferation. The products of the invention have angiogenic activity. The polypeptide can be used in pharmaceutical
                                                                                                                                                                           Conjugate; growth factor; FGF; cytotoxin; saporin; eye; regulation; cell proliferation; psoriasis; pterygia; corneal clouding; cancer; rheumatoid arthritis; vascular endothelial; fibroblast; epidermal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homolog of human vascular endothelial growth factor useful for stimulating endothelial cell proliferation, e.g. for stimulating
                                                                                                        Key
                                                                                                                                                                                                                                                                                                     R91075;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1999-552202/47.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DE19813774-A1.
               W09524928-A2
                                                                                                                                                                                                                                      Human vascular endothelial growth factor-121, VEGF-121
                                                                                                                                                                                                                                                                     14-MAY-1996
                                                                                                                                                                                                                                                                                                                             R91075 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     angiogenesis or tissue repair or for immunomodulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dehio C, Roettgen M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (PLAC ) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Parapoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunomodulation;
                                                           Protein
                                                                                        Peptide
                                                                                                                                  Homo sapiens
                                                                                                                                                              heparin
                                                                                                                                                                                                                                                                                                                                                                                                     135 rargekodkprr 146
                                                                                                                                                                                                                                                                                                                                                                                                                                   2 RTKPEKCDKPRR 13
                                                                                                                                                       binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98DE-1013774.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2; 16pp; German.
                                                         /label- sig_peptide 27..147
                                                                                                     Location/Qualifiers
                                             /label= VEGF-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dendritic cell differentiation; DNA vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rziha H,
                                                                                                                                                                                                                                                                                                                                 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 53; DB
Pred. No. 0.64
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Buettner M;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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RESULT
R94001
                                                                                                                                                                                                                                                                                                                                                                                          CC DNA encoding a VEGF can be used to create a fusion protein (FP).

CC encodes a heparin binding growth factor, HepGF (e.g. VEGF, FGF, HEBGF).

CC a protein synthesis inhibitor and opt. a linker imparting flexibility.

CC an antisense DNA sequence or an inhibitor of elongation factor?, to a cell carrying a HepGF receptor. The conjugates of the invention are conjugated to inhibit cell proliferation in cells carrying the particular cerestsive proliferation of principality. The exceptor and post a finite invention are conjugated to inhibit cell proliferation in cells carrying the particular cerestsive proliferation of epithelial cells, fibroblasts and crecurrence of pterygii after surgical removal, closure of trabeculectomy after glaucoma surgery and corneal clouding after cumours, restenosis, psoriasis, Dupuytren's contracture, diabetic complications, Kaposi's sarcoma and rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local :
                                                                                      Vascular endothelial growth factor; VEGF; human; conjugate; tumour; iris; proliferation inhibition; VEGF-mediated pathophysiological condition; dermatological disorder; VEGF receptor; vascular proliferation; retina; ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis; conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;
                            07-MAR-1996
                                                W09606641-A1
                                                                     Homo sapiens
                                                                                                                                                                       VEGF121.
                                                                                                                                                                                           09-0CT-1996
                                                                                                                                                                                                                   R94001;
                                                                                                                                                                                                                                 R94001 standard; Protein; 147
                                                                                                                                                                                                                                                                                        136 rarqekcdkprr 147
                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New conjugates of growth factor receptor ligand and targetted agent partic. DNA or cytotoxin, used to control cell proliferation in the eye, e.g. to prevent growth of pterygii and corneal clouding
                                                                                                                                                                                                                                                            12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 184-185; 204pp; English.
                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                   2 RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (PRIZ-) PRIZM PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-MAR-1994;
15-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-MAR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1995-336820/43
DB; Q99080.
                                                                                                                                                                                                                                                                                                                                Similarity 75.09; Conservative
                                                                                                                                                                                                                                                                                                                                                                              147 AA;
                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94US-0213447.
94US-0213446.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95WO-US03448
                                                                                                                                                                                                                                                                                                                                          67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vascular endothelial growth factors (VEGFs).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nova
                                                                                                                                                                                                                                                                                                                                       Score 53;
Pred. No.
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                                                                                                                                                                                                                                                                                                                             Mismatches
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                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                    DB 16; Length 147;
0.64;
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                                                                                                                                                                                                                                                                                                                          Indels
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RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                       Homo
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CC endothelial growth factors (WEGF). This sequence represent vascular CT These sequences; were used in VEGF conjugates of the invention. In the Conjugates, VEGF (or fragments of it) are linked to a targeted agent VEGF receptor. Cys-modified forms of VEGF are particularly suitable for C chemical conjugation to linkers and targeted agents. The conjugates are can be used for inhibiting proliferation of cells bearing VEGF receptors. They including dermatological disorders with underlying vascular proliferation, solid tumours or an ophthalmic disorder of vitreous humour. The conjugates can also be used for treating blood vessels of the retina, iris, conjunctiva or rheumatoid arthitis, skin cancers and other tumours, or varicose veins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 9; Conserv
    21-AUG-1997;
01-NOV-1996;
                                                                                                                                                                                                                       Human; vascular endothelial growth factor; VEGF; production; nitric oxide; prostacyclin; treatment; prevention; intimal hyperplasia blood vessel; essential hypertension; pulmonary arterial hypertension; PAH; cor pulmonale; atherosclerosis; (re)stenosis; angioplasty;
                                                                 03-NOV-1997;
                                                                                                           14-MAY-1998
                                                                                                                                               W09820027-A2.
                                                                                                                                                                                                                                                                                                                                              Amino acid sequence of human VEGF-121
                                                                                                                                                                                                                                                                                                                                                                                             11-SEP-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W62524 standard; Protein; 147 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         136 rarqekcdkprr 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R94001-R94004, R94031, R94032, R94039 and R94040 represent vascular endothelial growth factors (VEGF). This sequence represents VEGF12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 122-123; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vascular endotholial cell growth factor VEGF linked to targeted agent, used for cells, e.g. for gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fleurbaaij GA, '
Victor KD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (PRIZ-) PRIZM PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-MAY-1995;
29-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29~AUG-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 RTKPEKCDKPRR 13
                                                                                                                                                                                       sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1996-160151/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           147 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
97GB-0017791
96GB-0022852
                                                          97WO-GB03015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95US-0441979.
94US-0297961.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     67.98;
75.08;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 53;
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Houston LL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                endarteriectomy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (VEGF) conjugates - having inhibiting proliferation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nova MP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ν,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sosnowski BA;
                                                                                                                                                                                                                                                                        hyperplasia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
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Y90402
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence represents human vascular endothelial growth factor 121 (VEGF-121). VEGF stimulates production of nitric oxide and prostacyclin. VEGF can therefore be used for treatment or prevention of intimal hyperplasia in a blood vessel. VEGF can be used for treating or preventing any condition responsive to in vivo stimulation of nitric acid and prostacyclin (especially essential hypertension, pulmonary arterial hypertension (PAH), cor pulmonale and atherosclerosis. VEGF is specifically used to control (re)stenosis, where caused by PAH or by a surgical procedure such as angioplasty,
                                                                                                                                                                               US6037329-A
                                                                                                                                                                                                                                                                            Targetted gene delivery; fibroblast growth factor receptor; FGFR-binding protein; nucleic acid binding protein; eleptor internalised ligand; cytotoxin; saporin; gene therapy; cytocide; antiproliferative; cancer; melanoma; diabetic retinopathy;
                                                                                                                                                                                                                                                                                                                                                  VEGF encoded by
                                                                                                                                                                                                                                                                                                                                                                            18-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 8; Page 54; 70pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Treatment or prevention of intimal hyperplasia by stimulating production of nitric oxide - by administration of vascular endothelial growth factor, useful for, e.g. treating or preve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1998-286857/25.
N-PSDB; V38450.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09-MAY-1997;
                                                                                                                                                   14-MAR-2000
                                                                                                                                                                                                          Unidentified
                                                                                                                                                                                                                                                   eczema; heaprin-binding epidermal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              intimal hyperplasia
                                                                                                                         24-SEP-1996;
                                                                                                                                                                                                                                     vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Y90402 standard; Protein; 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (EURO-) EUROGENE LTD.
                                                       29-AUG-1994;
13-SEP-1994;
                                                                              15-MAR-1994;
15-MAR-1994;
          (SELE-) SELECTIVE GENETICS INC
                                       16-MAY-1995;
                                                                                                                                                                                                                                                  rheumatoid arthritis; restenosis, Dupuytren's contracture; psoriasis;
sczema; heaprin-binding epidermal growth factor; HBEGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      136 rarqekcdkprr 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bypass operation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   147 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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                                                 94US-0213446.
94US-0213447.
94US-0297961.
94US-0305771.
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                                                                                                                       96US-0718904
                                       95US-0441979.
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Pred. No.
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RESULT 15
Y69412
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             encoding a Cytocoxin such as saporin. One or more linkers may join the Cytor. For the nucleat acid binding protein. These are selected to increase the specificity, toxicity, solubility, serum CX stability or intracellular availability, and may serve to promote condensation of nucleic acids for delivery to a cell. The fusion protein binds to FGFR and is internalised by cells that carry this receptor. The cytor. The function, gene expression and viability of cells. In particular, it may be used for the therapeutic alteration of the function, gene expression and prevention of cell proliferative disorders, correction, gene expression and prevention of cell proliferative disorders, the used for the treatment and prevention of cell proliferative disorders, cretinopathy, psyriasis and eczema. The gene delivery compositions of the invention have high specificity for particular cells and can deliver larger amounts of DNA compared to prior art methods. Sequences Al2853-Al2856 represent cDNA clones encoding vascular endothelial growth factor (MEGF), and sequences v90402-v90405 represent the encoded content and entered the content of the content and can be part and can be proved to the content and can be content.
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                Human; vascular endothelial growth factor; VEGF 121; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; altergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        proliferating cells. The gene delivery composition comprises a protein that binds the fibroblast growth factor receptor (FGFR) which is fuse chemically conjugated to a nucleic acid binding domain. The nucleic acid binding domain is complexed with a suitable expression construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a novel gene delivery composition for targetted delivery of cytotoxins or prodrug-converting enzymes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gene delivery system, useful for treating or preventing cancer and rheumatoid arthritis, comprises receptor-internalized ligand linked
                                                                                                                                                                                                                                                                                                                                                                                    Amino acid sequence of vascular endothelial growth factor 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                          03-JUL-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Y69412 standard; Protein; 147 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleic acid binding domain and nucleic acid
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nes 9; Conserv
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Pred. No. 0.64
1; Mismatches
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Homo sapiens amyloidosis.

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Search completed: November 9, 2000, 15:30:38 Job time: 103 sec
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                                                                                                                                                                                                                                                            The present sequence represents native human vascular endothelial growth CC factor (VEGF) 121. VEGF is an angiogenic factor. VEGF proteins are used for the prevention or repair of injury to blood vessels or associated CC and repair of vascular injury associated with microvascular angiopathy. CC particularly thrombotic microangiopathy. The proteins methods may also CC with injury to, or atrophy of, the vasculature of the glomerulus and CC syndrome, toxic shock syndrome, voxic shock syndrome, venom exposure, chemical exposure, CC hypercoagulable states, platelet activation or aggregation, thrombosis, intravascular coagulation, sepsis, pancreatis, acute renal failure, CC myocardial infarction, ischemic bowel disease, transient ischemic cattacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung CC endothelium injury, acute respiratory distress syndrome, toxic alveolar cc cinjury, pneumonia, pulmonary emboli, birth prematurity disorders, cc cransplants, focal glomerulosclerosis, and amyloidosis.
                                                                                                                                                     Query Match 67.9%;
Best Local Similarity 75.0%;
Matches 9; Conservative
                                                                                                                                                                                                                                              Sequence
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136 rarqekcdkprr 147
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; F1g 3; 46pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors such as vascular endothelial growth factor (VEGP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2000-256861/22.
N-PSDB; Z99544.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-SEP-1999;
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                                                                                                                                                                                                                                              147 AA;
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99US-0126406.
99US-0126615.
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                                                                                                                                              Score 53; DB 21; Length 147;
Pred. No. 0.64;
1; Mismatches 2; Indels
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Post-processing: Minimum Match 0%
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Listing first 45 summaries
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length: 2000000000
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Gapop 10.0 , Gapext 0.5
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/cgn2_5/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_5/ptodata/2/iaa/5_COMB.pep:*
/cgn2_5/ptodata/2/iaa/PCTUS_COMB.pep:*
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                US-08-441-629-8

US-08-776-207-8

PCT-US95-09172-8

US-08-325-186-2

US-08-438-439C-24

US-08-325-186-1
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US-08-231-894A-13

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US-08-231-894A-15

US-09-105-678A-49
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US-08-284-784-4
US-08-824-811-4
US-08-824-811-4
PCT-US90-06962-1
US-07-830-330-1
US-08-187-780-3
US-08-178-485-3
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11.846 Million cell updates/sec
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Sequence 3, Appli
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; LENGTH: 132 amino acids
; TYPE: amino acid
; STRANDEDISCS: single
; STODLOGY: linear
US-08-100-744-4
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US-08-100-744-4
                                                Query Match
Best Local S
Matches 45
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA

ZIP: 94304-1018

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSIEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Vei
CURRENT APPLICATION DATA:
APPLICATION NYMBER: US/08/100,744
FILING DATE: 02-AUG-193
CLASSIFICATION: 435
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: LUTHER, BARBARA J.
REGISTRATION MUMBER: 33,954
REFERENCE/DOCKET NUMBER: 22095-20275
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: MASCARENHAS, DESMOI
APPLICANT: ZHANG, SUNNY
APPLICANT: OLSON, PAMELA
APPLICANT: OLSON, DAVID
APPLICANT: CARRILLO, PEDRO A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
STREET: 755 - 2456 Mill Road
CITY: Palo Alto
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: POLYPEPTIDE FUSIONS TO INVENTION: INTERLEUKIN-1-LIKE POLYPEPTIDES
                                                                                                                                                                                                                                                                                                                  TELEPHONE: (115) 813-5600
TELEFAX: (415) 494-0792
TELEX: 706141
1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV

    Application US/08100744
    5563046

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US-07-959-369-6
US-07-959-369-7
US-08-023-757-2
US-08-023-757-4
US-08-177-502-2
US-08-177-502-2
US-08-139-725A-10
US-08-439-725A-10
US-08-439-725A-10
US-08-438-7471-10
US-08-438-439C-14
US-08-951-822-28
US-08-951-822-28
US-08-951-822-28
US-08-951-822-28
US-08-705-245-6
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                                        Score 239; DB 1
Pred. No. 8e-28;
Mismatches
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                                                                                    Length 132;
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Result No.

Score

Match Query

0

Gaps

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Minimum DB Maximum DB

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Total number of

Searched

Scoring table:

Sequence Sequence Sequence

Patent

Sequence

e 6, Appli 7, Appli 2, Appli 2, Appli 2, Appli 2, Appli 10, Appli 10, Appli 10, Appli 11, Appli 11, Appli 11, Appli 11, Appli 12, Appli 11, Appli 12, Appli 13, Appli 14, Appli 16, Appli 17, Appli 18, Appli 19, Appli

Sequence Sequence

Title: Perfect score:

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                                                                                                                                                                      Sequence 4, Application US/08854811 Patent No. 5914254
                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (415) 494-079
TELEX: 706141
INFORMATION FOR SEQ ID NO:
                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FOR PC compatible
COMPUTER: PATENT PC COMPATION
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/284,784
FILING DATE: 02-AUG-1994
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                                    APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
TELEFAX: (415) 494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: PARK, FREDDIE K.
REGISTRATION NUMBER: 35,636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: EXPRESSION OF FUSION POLYPEPTIDES TITLE OF INVENTION: TRANSPORTED OUT OF THE CYTOPLASM (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: CARRILLO, PEDRO A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
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              TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                              10 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 54
                                                                                                                                                                                                                                                                                                                                          y match 100.0%;
Local Similarity 100.0%;
les 45; Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                   1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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755 Page Mill Road
 SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OLSON, PAMELA S. OLSEN, DAVID R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MASCARENHAS, DESMOND ZHANG, YANG
                                                                  Olsen, David R. Cohen, Pedro A.
                                                                                                    Olson, Pamela S.
                                                                                                                    Zhang, Yang
                                                                                                                                       Mascarenhas, Desmond
                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             single
EXPRESSION OF FUSION POLYPEPTIDES TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER SEQUENCES 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4:
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Pred. No. 8e-28;
                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OF THE CYTOPLASM WITHOUT LEADER SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                        DB 1;
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PCT-US90-06962-1
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TOPOLOGY: linear US-08-854-811-4
                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM: Windows
SOFTWARE: FastSEQ for Windows Version 2.0b
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/854,811
FILING DATE: 12-MAY-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/284,784
FILING DATE: 02-AUG-1994
APPLICATION NUMBER: 08/100,744
FILING DATE: 02-AUG-1993
APTORNEY/AGENT INFORMATION:
NAME: Buffinger, Nicholas S
REGISTRATION NUMBER: 39,124
REFERENCE/DOCKET NUMBER: 22095-20275.21
FELECOMMUNICATION INFORMATION:
TELEPHONE: 650-813-5600
                                                                                                  Query Match
                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                            TELEPHONE: 650-494-0792
TELEPAX: 650-494-0792
TELEPAX: 706141
                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 755 PAGE CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM CON
OPERATING SYSTEM:
                                                             Match 100.0%;
Local Similarity 100.0%;
local Similarity 00.0%;
les 45; Conservative 0
1 YCKNGGFFLRJHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IBM Compatible
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                                                                      0;
                                                                   Score 239; DB 2
pred. No. 8e-28;
0; Mismatches
                                                                                                         DB 2;
                                                                        <u>,</u>
                                                                                                         Length 132;
                                                                        Indels
                                                                            0;
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Sequence 1, Application PC/TUS9006962
Sequence 1, Application PC/TUS9006962
Sequence 1, Application PC/TUS9006962
Sequence 1, Application PC/TUS9006962
APPLICANT: Baird, J. A. A. APPLICANT: Baird, J. DAVESSE: Treatment of HSV
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS: 2
CORRESSEE: Fitch, Even, Tabin & Flannery
STREET: 135 South LaSalle Street, Suite 900
CITY: Chicago
STATE: 111no1s
COUNTRY: USA
ZIP: 60603
COMPUTER: IIINO1S
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.24
CURRENT APPLICATION NUMBER: PCT/US90/06962
FILING DATE: 19901129
CLASSIFICATION BATA:
APPLICATION NUMBER: US 07/443,939
APPLICATION NUMBER: US 07/443,939

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US-07-830-330-1
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US-07-830-330-1
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Best Local !
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SEQUENCE CHARACTERISTICS:
LENGTH: 157 amino acids
TYPE: AMINO ACID
                                                                                                                                            TELEX: 248855 OPAT UR INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Carminati, Paolo
APPLICANT: Mazue, Guy
APPLICANT: Mazue, Guy
TITLE OF INVENTION: SYNERGISTIC COMPOSITION COMPRISING A
TITLE OF INVENTION: FIBROBLAST GROWTH FACTOR AND A SULFATED POLYSACCHARIDE,
TITLE OF INVENTION: FOR USE AS ANTIVIRAL AGENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 50
TELECOMMUNICATION_INFORMATION:
TELEPHONE: (619)552-1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                TOPOLOGY: lin
MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acid
                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 76
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)521-4500
TELEFAX: (703)486-2347
                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5288704man F.
REGISTRATION NUMBER: 24,618
                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
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STATE: V1.
22202
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mes 45; Conserv
                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US FILING DATE: 19920420 CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Schumann, Jame REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 79
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5. 5288704
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Arlington
                                                                                      H: 145 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              E: P.C.
1755 Jefferson Davis Highway, Fourth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Garofano, Luisa
Battistini, Carlo
Carminati, Paolo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (619)552-0095
(7) TO NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ungheri, Domenico
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 239; DB 4; llarity 100.0%; Pred. No. 8.6e-28; Conservative 0; Mismatches 0;
                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT
                                                                                                                                                                                                                                                                                                                                                                                                                                         Floppy disk
                                                 protein
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US-08-187-780-3
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Sequence 3, APPL
Sequence 4, APP
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (212) 527-7700
TELEFAX: (212) 753-6237
INFORMATION FOR SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 07/800
FILING DATE: December 6,
APPLICATION NUMBER: 07/17;
FILING DATE: "April 4, 1988
APPLICATION NUMBER: 07/06;
APPLICATION NUMBER: 07/06;
FILING DATE: June 16, 198
ATTORAGENT INFORMATION:
NAME: YOURT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Howard M. Frankfort
REGISTRATION NUMBER: 32,613
REFERENCE/DOCKET NUMBER: 5986/13586-US3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 527-7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette,
MEDIUM TYPE: 360 Kb st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
TITLE OF INVENTION: MAMMALIAN GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                    FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
   OTHER INFORMATION:
OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 0 FILING DATE: June 22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: Januar
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                                                                                                                                                                                                                                                                  NAME/KEY:
                                                                                                                                                                                                                                                                                                                                      DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                                          IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Third Avenue
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PC/MS-DOS
corresponding to bovine basic fibroblast growth factor, can be found in Table 1, page 9, lines 9, 14, and 19, in the application, as filed.
                                                                                                                                                    This sequence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07/177,506
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/ 25, 1994
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US-08-478-485-3

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TELEFAX: (212) 527-770(
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 145
TYPE:
                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION 1424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/187,780
FILING DATE: January 25, 1994
APPLICATION NUMBER: 07/901,705
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/177,506
FILING DATE: APPLICATION NUMBER: 07/177,506
FILING DATE: APPLICATION NUMBER: 07/177,506
FILING DATE: June 16, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: June 16, 1987
ATTORNEY/AGENT INFORMATION:
NAME: JOSEPH R. RODANSON
REGISTRATION NUMBER: 02,000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3, Application US/08478485
Patent No. 5883071
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Best Local Similarity
Matches 45; Conserv
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APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
APPLICANT: DANIELA TALARICO
                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 33,448
REFERENCE/DOCKET NUMBER: 591
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible OPERATING SYSTEM: PC/MS-DOS SOFTWARE: Wordperfect 5.1 CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy Diskette, 3+ inch,
MEDIUM TYPE: 1.44 MB storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: OUL
STREET: New York
CITY: New York
"TATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby & D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                  TYPE: amino acid
STRANDEDNESS: Sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/478,485 FILING DATE: Concurrently Herewith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 YCKNGGFFLRIHDDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
PUBLICATION DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOCUMENT NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
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RELEVANT RESIDUES IN SEQ ID NO:
US-08-478-485-3
                                                                     APPLICATION NUMBER: US/08/231,894A FILING DATE: 22-APR-1994 CLASSIFICATION: 435
PRIOR APPLICATION DATA: APPLICATION DATA: 24-APR-1992 CLASSIFICATION: 435
PRIOR APPLICATION DATA: 435
PRIOR APPLICATION DATA: 1992
PRIOR APPLICATION DATA: 435
PRIOR APPLICATION DATA: 4907655-1991
PRIOR APPLICATION DATA: 
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: 6: CUSHMAN
                              REGISTRATION NUMBER:
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
   REFERENCE/DOCKET NUMBER:
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VOLUME:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DENTIFICATION METHOD
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                     MASSACHUSETTS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Diskette
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100.0%; Pred. No. 9e-28;
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41769-FWC
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US-08-231-894A-12
; Sequence 12, Application US/08231894A
; Patent No. 5851990
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Best Local Similarity 100.0%; Pred. No. 9e-28;
Matches 45; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
MOLECULE TYPE: pept:
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: inter
ORIGINAL SOURCE:
                                 TELEFAX: (617) 523-64
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (617) 523-644
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acid
                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: FASTSEQ VERSION 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                     APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
ATTORNEY_AGENT INFORMATION:
NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34235
REGERENCE TOOCHER NIMBER: 34750-747
                                                                                                                                                                                                                   APPLICATION NUMBER: JP 0
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN;
ADDRESSEE: & CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (617) 523-3400
                                                                  REFERENCE/DOCKET NUMBER: 41769-FWC TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM CON
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: BOSTON
STATE: MASSAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         130 WATER STREET
                                                  (617)
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                               523-6440
ID NO: 12:
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US-08-231-894A-13
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                                                                                                                           LENGTH:
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Query Match
Best Local Similarity
Matches 45; Conserv
                                                                                                                                      FRAGMENT TYPE: internal ORIGINAL SOURCE:
                                                                                                                                                                 HYPOTHETICAL: I
                                                                                                                                                                                                MOLECULE TYPE:
24 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
                                                                                                                                                                                                              TOPOLOGY: linear
              1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                      Conservative
                                                                                                                                                                              . peptide
                                                  100.0%; Score 239; DB 2
100.0%; Pred. No. 9e-28;
tive 0; Mismatches
                                                                                DB 2; Length 146;
                                                      0
                                                      Indels
                                                      0;
                                                     Gaps
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GENERAL INFORMATION:

APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUGUDA, TSUNGHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBE
ADDRESSEE: 6 CUSHMAN
ADDRESSEE: 6 CUSHMAN
                                                                                                                                                                          TELEFAX: (617) 523-6440
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: ,24-APR-1992
CLASSIFICATION: 435
MOLECULE TYPE: peptide HYPOTHETICAL: NO ANTI-SENSE: NO FRAGMENT TYPE: Internal ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
                                                                                               TYPE: amino acid
STRANDEDNESS: si
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: JP 097655-1991 FILING DATE: 26-APR-1991
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OPERATING SYSTEM:
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REFERENCE/DOCKET NUMBER:
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5851990
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US-08-231-894A-13

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US-08-231-894A-14
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US-08-231-894A-14
              Query Match
Best Local Similarity
Matches 45; Conserv
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Best Local Similarity
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                                                                                                                MOLECULE TYPE: F
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: 1
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                        TELEFAX: (617) 523-6440 INFORMATION FOR SEQ ID NO: 14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: JP 0
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
GUARSTETONTON: 4.25
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ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: & CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: FUJISHIMA, AKIRA APPLICANT: FUKUDA, TSUNEHIKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/231,894A FILING DATE: 22-APR-1994 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ Version 1.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM:
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: MASSACHUSETTS
                                                                                                                                                                                                                                                                                                                                                                 RESNICK, DAVID
                     100.0%; ilarity 100.0%; Conservative 0
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                                                                                                                                                             NO Peptide
                                                                                                                                                                                               linear
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                                                                                                                                internal
                                                                                                                                                                                                                                                                                                                                                                                                 UMBER: JP 066381-1992
24-MAR-1992
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                       0
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                                 Score 239; DB 2
Pred. No. 9e-28;
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                                               DB 2;
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                                              Length 146;
                  Indels
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              Gaps
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                                                               Query Match
Best Local Similarity
Matches 45; Conserv
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                                                                                                                                                                                                                                                                                                  TELEFAX: (617) 523-644
NFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
                                                                                                                                                                                         HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: 435
PRIOR APPLICATION DATA:
O7/873907
                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                        MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
COMPUTER: IBM Compat
OPERATING SYSTEM: DO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BEGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBI
ADDRESSEE: 6 CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
24 YCKNGGFFLR1HPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
                1 YCKNGGFFLÄ1HPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US 0
FILING DATE: 24-APR-1992
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                           TELEPHONE:
                                                                                                                                                                                                                                        STRANDEDNESS:
TOPOLOGY: 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/0 FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                    LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: U:
ZIP: 02109
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o. 5851990
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                                                                                                                                                                                                                                                                               146 amino acids
                                                               100.0%; ilarity 100.0%; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             130 WATER STREET
                                                                                                                                                                                                                                      linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IBM Compatible
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                                                                                                                                                                            internal
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                                                                                                                                                                                                                                                                                                               15:
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                                                                                                                                                                                                                                                                                                                                                                           41769-FWC
                                                            Score 239; DB 2
Pred. No. 9e-28;
; Mismatches
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                                                                                       DB_2; Length 146;
                                                            Indels
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                                                        Gaps
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RESULT 13 US-09-105-678A-49

GENERAL INFORMATION:

), Application US/09105678A 6103882

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RESULT 14
5464943-6
5464943
; PATENT NO. 5464943
; APPLICANT: SENCO, MASAHARU; SASADA, REIKO; IGARASHI, KOICHI TITLE OF INVENTION: DNA ENCODING GLYCOSYLATED FGF AND PRODUCTION THEREOF
INUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
CURRENT APPLICATION NUMBER: US/08/275,635
FILLING DATE: 15-JUL-1994
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
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; MOLECULE TYPE:
US-09-105-678A-49
5464943-6
                                 SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 45; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 617-523-6440 INFORMATION FOR SEQ ID NO: 49:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 172118/1997
FILLING DATE: 27-JUN-1997
ATTORNEY/AGENT INFORMATION:
NAME: CODIII, DAVIG G.
REGISTRATION NUMBER: 27,026
REFERENCE/DOCKET NUMBER: 48466-342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09
FILING DATE: 26-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: 617-523-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: METHOD OF PRODUCING A 19P2 LIGAND NUMBER OF SEQUENCES: 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                 APPLICATION NUMBER: 7,089
FILING DATE: 19-JAN-1993
APPLICATION NUMBER: 511,469
FILING DATE: 20-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 130 |
CITY: Boston
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                 LENGTH: 146
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ZIP: 02109
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Moriya, Takeo
Tanaka, Yoko
Nishimura, Osamu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             130 Water Street
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RESULT 15
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Search completed: November Job time: 241 sec
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; APPLICANT: SENO), MASAHARU;SASADA, REIKO;IGARASHI, KOICHI
; TITLE OF INVENTION: DNA ENCODING GLYCOSYLATED FGF AND
;PRODUCTION THEREOF
;NUMBER OF SEQUENCES: 42
; CURRENT APPLICATION DATA:
                                                                                                                                                                                                                               SEQ ID NO:8:
                                                                                                                              Matches
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                                                                                                                                        Query Match
Best Local Similarity
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Best Local Similarity
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FILING DATE: 15-JUL-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                            APPLICATION NUMBER: 7,089
FILING DATE: 19-JAN-1993
APPLICATION NUMBER: 511,469
FILING DATE: 20-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
                                                                                    1 YCKNGGFFLRIHPDGRYDGVREKSDPHIKLQLQAEERGVYSIKGV 45
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            2000, 15:33:00
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Pred. No. 9e-28;
0; Mismatches 0;
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Minimum DB seq length: 0
Maximum DB seq length: 20
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Perfect score:
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Maximum Match 100%
Listing first 45 summaries
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239
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pir1: *
pir2: *
pir3: *
pir4: *
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

29	28	27	26	25	24	23	22	21	20	19	18	17	. 16	15	14	13	12	11	10	9	80	7	0	ъ	4	ω	2	ш	Result No.
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65.5	65.5	65.5	66.5	67.5	67.5	69.5	69.5	70.5	76.5	77.5	79	79	82	82	83
27.4	27.4	27.4	27.8	28.2	28.2	29.1	29.1	29.5	32.0	32.4	33.1	33.1	34.3	34.3	34.7
194	194	194	194	207	207	208	208	121	237	208	239	192	187	168	245
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S49501	S26049	A36301	I48610	JC5941	JC5940	A48137	S66486	S68145	S39582	JC7082	S04742	S54407	S23595	JG0184	TVMST2
keratinocyte growt	fibroblast growth	fibroblast growth	keratinocyte growt	fibroblast growth	transforming prote	fibroblast somatot	fibroblast growth	embryonic fibrobla	embryonic fibrobla	fibroblast growth	transforming prote				

ALIGNMENTS

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A;Title: Primary stricture of ovine pituitary basic fibroblast growth factor. A;Reference number: 300185; MUID:88055577
A;Accession: S00185
A;Molecule type: protein
A;Residues: 1-146 <SIM>C;Superfamily: fibroblast growth factor c;Superfamily: fibroblast growth factor c;Reywords: growth factor; heparin binding; mitogen F;18-22/Region: heparin binding #status predicted F;107-110/Region: heparin binding #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                       basic fibroblast growth factor - sheep N;Alternate names: prostatropin C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 C;Accession: S00185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R:Winkles, J.A.; Friesel, R.; Alberts, G.F.; Janat, M.F.; Liau, G. Am. J. Pathol. 143, 518-527, 1993
A;Title: Elevated expression of basic fibroblast growth factor in A;Reference number: I46711; MUID:93343209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fibroblast growth factor - rabbit (fragment)
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 14-Feb-1997 #sequence_revision 14-Feb-1997
C;Accession: I46711
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A;Molecule type: mRNA
A;Residues: 1-137 <WIN>
                                                                                                                                                                                                                                                                                                                                                                         R;Simpson, R.J.; Moritz, R.L.; Lloyd, C.J.; Fabri, L.J.; Nice, E.C.; Rubira, M.R.; FEBS Lett. 224, 128-132, 1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:L12034; NID:g165014; PIDN:AAA31248.1; PID:g165015 C;Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Accession: I46711
                                        Query Match
Best Local :
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Best Local Similarity
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100.0%; 5c.
100.0%; Pr
                                Score 239; DB 1;
Pred. No. 1.7e-24;
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Endocrinology 118, 82-90, 1986
A; Title: Isolation of fibroblast growth fa
A; Reference number: A61094; MUID: 86081530
A; Accession: A61094
A; Molecule type: protein
A; Mesidues: 12-25,27-35,'X',37-40 <GOS>
-3; Expegimental source: adrenal gland
                                                                                                                                                                                    R;Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Gu
Blochem. Biophys. Res. Commun. 138, 580-588,
A;Title: Isolation of an amino terminal exter
A;Reference number: A24819; MUID:86295737
A;Contents: annotation
A;Contents: annotation
A;Mote: the amino end of this form was blocker
R;Gospodarowicz, D.; Baird, A; Cheng, J.; Li
                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: protein
A;Residues: 23-35'X',37-42 <UEN>
A;Experimental source: liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R:Ueno, N.; Baird, A.; Esch, F.; Shimasaki, S.; Ling, Regul. Pept. 16, 135-145, 1986
A;Title: Purification and partial characterization of A;Reference number: A60310; MUID:87119165
A;Accession: A60310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Residue.

A; Esch. F.; Shimasaki, S.; Ling, N.; Guillemin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MCI. Cell. Endocrinol. 51, 187-199, 1987

A.Title: Isolation, characterisation and tissue localisation of an N-terminal-trun
A; Reference number: A61550; MUID:87247652

A; Molecule type: protein
A; Residues: 16-35 < MERS
A; Hesidues: 16-35 < MERS
A; Hesidues: 16-35 < MERS
MOI. Cell. Endocrinol. 49, 189-194, 1987
A; Title: Isolation and partial characterization of basic fibroblast growth factor:
A; Reference number: A61551; MUID:87162856
A; Accession: A61551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: protein
A; Residues: 27-35, 'X', 37-41 <UE3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Molecule type: protein
A;Residues: 1-14 <MIL>
A;Note: demonstration of a possible alternative initiator or splice junction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Residues: 3-157 <AB2>
R;Milner, P.G.; Li, Y.S.; Hoffman, R.M.; Kodner, C.M.; Siegel, N.R.; Deuel, T.F. Biochem. Biophys. Res. Commun. 165, 1096-1103, 1989
A;Title: A novel 17 kD heparin-binding growth factor (HBGF-8) in bovine uterus: A;Reference number: A33784, MUID:90121211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: mRNA ...

A;Residues: 3-157 < ABR>
A;Cross-references: GB:R13440; NID:g163049; PIDN:AAA30518.1; PID:g16
A;Experimental source: pituitary gland
R;Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
Cold Spring Harb. Symp. Quant. Biol. 51, 657-668, 1986
A;Title: Human basic fibroblast growth factor: nucleotide sequence, A;Reference number: A90924; MUID:87217066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Title: Nucleotide sequence of a bovine clone encoding the angiogenic protein, A;Reference number: A94290; MUID:86261806
A;Accession: A24663
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
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ernate names: bFGF; kidney-derived growth factor;
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J.; Lui,
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F.; Bohlen, P.
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A; Nolecule type: protein
A; Residues: 27-35,'X',37-43 <BAI>
A; Experimental source: kidney
R; Bohlen, P.; Baird, A.; Esch, F.; Ling, N.; Gospodarowicz, D.
Proc. Natl. Acad. Sci. U.S.A. 81, 5364-5368, 1984
A; Title: Isolation and partial molecular characterization of pituitary fibroblast gro
A; Reference number: A22054
A; Reference number: A22054
A; Reference number: A22054
A; Molecule type: protein
A; Residues: 12-26 <BOHN
C; Comment: The acidic and basic fibroblast growth factors are the major endothelial-c
C; Comment: The acidic and basic fibroblast growth factor
C; Comment: This protein binds heparin more strongly than does aFGF.
C; Comment: This protein binds heparin more strongly than does aFGF.
C; Comment: This protein binds heparin more strongly than does aFGF.
C; Comment: This protein binds factor
C; Reywords: alternative splicing; angiogenesis; blocked amino end; growth factor;
F; 1-157/Product: basic fibroblast growth factor, uterine form #status predicted <MATI
F; 12-157/Product: basic fibroblast growth factor, pituitary gamma form #status experim
F; 13-157/Product: basic fibroblast growth factor, pituitary short form #status experimental <A; 23-33,118-121/Region: heparin binding #status predicted
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <A; 23-33,118-121/Region: heparin binding #status predicted
F; 4/Modified site: blocked amino end (Ala) (in mature form pituitary gamma) (probably
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Best Local S
Matches 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A:Experimental source: pituitary gland R:Baird, A.; Esch, F.; Boehlen, P.; Ling, N.; Gospodarowicz, Regul. Pept. 12, 201-213, 1985
A:Title: Isolation and partial characterization of an endothe A:Reference number: A60316; MUID:86095426
A:Accession: A60316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;ESCh, F.; Baird, A.; Ling, N.; Ueno, N.; Hill, F.;
Proc. Natl. Acad. Sci. U.S.A. 82, 6507-6511, 1985
A;Title: Primary structure of bovine pituitary basic
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A;Accession: A01386
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                                                                                                                                                                                                                      YCKNGGFFLR1HPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                   YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 79
                                                                                                                                                                                                                                                                                                                          l Similarity
45; Conserv
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12-157 <ESC>
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                                                                                                                                                                                                                                                                                                              Score 239; DB 1;
Pred. No. 1.8e-24;
Mismatches 0;

    human
    prostatic growth

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prostat
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RESULT 4
A32398
basic fibroblast growth factor precursor, 22.5K form N,Alternate names: bFGF; fibroblast growth factor 2; N:Contains: basic fibroblast growth factor, 18K form
A;Note: authors translated the codon GGA for residue R;Kurokawa, T.; Sasada, R.; Iwane, M.; Igarashi, K. FEBS Lett. 213, 189-194, 1987
                                                                              A; Accession: A61537
A; Molecule type: DNA:
A; Residues: 1-114 <SEI>
                                                                                                                                              A;Cross-references: CB.J04513; NID:g183083; PIDN:AAA52531.1; R;Shibata, F; Baird, A.; Florkiewicz, R.Z. Growth Factors 4, 277-287, 1991
A;Title: Functional characterization of the human basic fibre A;Reference number: £61537; MUID:92110035
A;Accession: A61537
                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Homo sapiens (man)
C;Sate: 31-Uul-1989 #sequence_revision 31-Dec-1993 #text_change 16-Jul-1999
C;Accession: A32398; A61537, A26642; B32878; S00297; A54316; B54316; A33624;
R;Prats, H.; Kaghad, M.; Prats, A.C.; Klagsbrun, M.; Lelias, J.M.; Liauzun, Proc. Natl. Acad. Sci. U.S.A. 86, 1836-1840, 1989
A;Title: High molecular mass forms of basic fibroblast growth factor are init
A;Reference number: A32398; MUID:89184522
                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-210 < PFA>
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                                                   as
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                                                                                                                                                                             factor gene
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A; Accuration preliminary
A; Molecule type: protein
A; Residues: $7-210 <FEI>
R; Story, M.T.; Esch, F; Shimasaki, S.; Sasse, J.; Jacobs, S.C.
R; Story, M.T.; Esch, F; Shimasaki, Solution of basic fibro
A; Feterace number: A25824; MUID: 87156686
A; Accession: A25824; MUID: 87156686
A; Molecule type: protein
A; Residues: $7-77 < <GTO>
A; Experimental source: prostate
R; Glamener Gallego, G; Conn, G; Hatcher, V.B.; Thomas, K.A.
Biochem. Biophys. Res. Commun. 135, 541-548, 1986
A; Title: Human brain-derived acidic and basic fibroblast gro
A; Reference number: A90122; MUID: 86186784
A; Accession: B24243
A; Accession: B24243
A; Residues: 65-102, Y, 104-105 <GIM>A; Experimental: source: brain
R; Gautschi, P.; Frater-Schroder, M.; Bohlen, P.
R; Gautschi, P.; Frater-Schroder, M.; Bohlen, P.
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A; Rolecule type: mRNA
A; Residues: 56-210 <KUR>
A; Residues: 56-210 <KUR>
A; Cross-references: GB: M27968; NID: g182562; PIDN: AAA52448.1; PID: g182563
R; Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
Cold Spring Harb. Symp. Quant. Biol. 51, 657-668, 1986
Cold Spring Harb. Symp. Quant. Broile factor: nucleotide sequence, geno
A; Accession: B194301
A; Accession: B24301
A; Accession: B24301
A; Accession: B24301
A; Accession: B2590;
A; Accession: B2690;
A; Accession: B198;
A; MUID:86275260
A; Accession: B2690;
A; Muldistrian A; Brewer, M.T.; Thompson, R.C.; Moscatelli, D.; P. Blochem. Biophys. Res. Commun. 144, 543-550, 1987
A; Title: A form of human basic fibroblast growth factor with A; Reference number: S42242; MUID:87213238
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A; Residues: 56-210 <ABR>
A; Reference number: S00297; MUID:87053817
A; Accession: S00297
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A;Residues: 'XXX',19,'X',21-29 <SH2>
A;Residues: 'XXX',19,'X',21-29 <SH2>
A;Residues: 'XXX',19,'X',21-29 <SH2>
A;Residues: 'XXX',19,'X',21-29 <SH2>
A;Rote: Sequence extracted from NCBI backbone (NCBIP:71594)
A;Feige, J.J.; Bradley, J.D.; Fryburg, K.; Farris, J.; Cousens, L.C.; Barr, J. Cell Biol. 109, 3105-3114, 1989
A;Title: Differential effects of heparin, fibronectin, and laminin on the ph
A;Reference number: A33624; MUID:90078343
A;Accession: A33624
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A:Title: Partial molecular characterization

A:Title: Partial molecular characterization
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A;Molecule type: protein
A;Residues: 'XX',86-88,'X',90-91,'X',93-95 <SH3>
A;Experimental source: C-L121 hepatocellular carcinoma cell
A;Experimental source extracted from NCBI backbone (NCBIP:71595)
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A;Title: Characterization of high-molecular-mass forms of bas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Note: sequence extracted A; Accession: B54316
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A; Accession: A54316
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A; Residues: 1-154 <SHI>
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Best Local Similarity
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A;Cross-references: 3DB:119910; OMIM:134920
A;Cross-references: 4927
A;Cross-references: 4927
A;Map position: 4925-4927
A;Start codon: CTG
C;Superfamily: fibroblast growth factor
C;Reywords: alternative initiators; angiogenesis; growth factor; heparin binding; mi C;Reywords: alternative initiators; angiogenesis; growth factor, 22.5K form #status predicted <MAZ>
F;1-210/Product: basic fibroblast growth factor, 18K form #status predicted <MAT>
F;82-86/Region: heparin binding #status predicted
F;82-86/Region: heparin binding #status predicted
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A; Title: Purification and characterization of A; Reference number: S46253; MUID:94320639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: EMBL:M17599; NID:g183086; PIDN:AAA52534.1; PII R;Pantoliano, M.W.; Horlick, R.A.; Springer, B.A.; Van Dyk, D.E.; Biochemistry 33, 10229-10248, 1994
A;Title: Multivalent ligand-receptor binding interactions in the 1 A;Reference number: A55784; MUID:94347757
A;Accession: B55784
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factor precursor
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Pred. No. 2.5e-24;
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A;Cross references: GB:M22427; NID:g204285; R;Kurokawa, T.; Seno, M.; Igarashi, K. Nucleic Acids Res. 15, 5201, 1988
A;Title: Nucleotide. sequence of rat basic fi A;Reference number: 300876; MUID:88262516
A;Accession: S00876
A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                   N;Alternate names: b;GF
C;Species: Rattus norvegicus (Norway rat)
C;Species: Natus norvegicus (Norway rat)
C;Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 16-Jul-1999
C;Accession: A31674; S00876; S24309
R;Shimasaki, S.; Emoto, N.; Koba, A.; Mercado, M.; Shibata, F.; Cooksey, K.
Blochem. Blophys. Re3. Commun. 157, 256-263, 1988
A;Title: Complementary DNA cloning and sequencing of rat ovarian basic fibro
A;Reference number: A31674; MUID:89061721
A;Accession: A31674
                                                                                                               fibroblast
                                                                                                                                                                                                                      PIDN: AAA41210.1;
                                                                                                           growth
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                                                                                                                                                                                                                  PID: g204286
                                                                                                                                                                                                                                                                                                                                                                                                    basic fibroblast
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Baird,

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A;Experimental source: embryo
A;Note: sequence extracted from NCBI backbone (NCBIN:131000, NCR:Mitrani, E.; Gruenbaum, Y.; Shohat, H.; Ziv, T.
Development 109, 387-393, 1990
A;Title: Fibroblast growth factor during mesoderm induction in A;Reference number: S23636; MUID:90382254
                                                                                                       RESULT
A48834
                                                                                                                                                                                                                                                                                                                   basic fibroblast growth factor - chicken
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A; Title: Isolation of cDNAs encoding four mouse FGF family members A; Reference number: A37360; MUID: 90201563
A; Accession: C37360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A:Cross-references: GB:M30544; NID:9193296; PIDN:AAA37621.1; PID:9309239 C;Superfamily: fibroblast growth factor
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A; Residues: 1-154 <HEB>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            basic fibroblast growth factor - mouse
C:Species: Mus musculus (house mouse)
C:Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;El-Husseini, A.E.D.; Paterson, J.A.; Myal, Y.; Shiu, R.P.C.
Biochim. Biophys. Acta 1131, 314-316, 192
A;Title: PCR detection of the rat brain basic fibroblast growth factor () A;Reference number: $24309; MUID:92329546
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;1-9/Domain: signal sequence #status predicted <SIG>F;10-154/Product: basic fibroblast growth factor #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 35-154 <ELH>
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Best Local Similarity 97.8
44; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                       1 YCKNGGFFLKIHPDGRVDGVREKSDPHIKLQLQABERGVVSIKGV 45
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44; Conservative
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Pred. No. 2.4e-24;
1; Mismatches 0
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Pred. No. 2.4e-24;
1; Mismatches 0
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                                                                               NCBIP:131001;
                        the early chick embryo.
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Matches
                                      Query Match
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A:Molecule type: mRNA.
A:Residues: 95-110,I12-155 <KI2>
C:Superfamily: fibroblast growth
C:Keywords: growth factor
                                                                             A; Title: Synergistic induction of mesoderm A; Reference number: A29618; MUID:88052890 A; Accession: A29618
                                                                                                                                                                                                                                          R;Kimelman, D.; Abraham, J.A.; Haaparanta, T.; Palisi, T.M.; Kirschner, M.W. Science 242, 1053-1056, 1988
A;Title: The presence of fibroblast growth factor in the frog egg: its role A;Reference number: 740117; MUID:89058621
A;Accession: A40117
                                                                                                                                        R; Kimelman, D.; Kirschner, M. Cell 51, 869-877, 1987
                                                                                                                                                                       A;Cross-references: @B:M18067; NID:g214177;
                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-155 < KIM>
                                                                                                                                                                                                                                                                                                                                                  C; Species: Xenopus leevis (African clawed C; Date: 10-Sep-1999 #sequence_revision 10-C; Accession: A40117; A29618
                                                                                                                                                                                                                                      A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                       basic fibroblast growth factor - African clawed frog
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C;Superfamily: fibroblast growth factor
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A; Residues: 1-164 < KUS>
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A;Status: preliminary
A;Molecule type: DNA;
A;Kesidues: 95-128 </IT>
A;Cross-references: EMBL:X56804; NID:g62855; PIDN:CAA40139.1; PID:g62856
C;Superfamily: fibroblast growth factor
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R; Kusewitt, D.F.; S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Monodelphis domestica (fragme C;Species: Monodelphis domestica) (fragme C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 12-Apr-1995
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97.8%;
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Library, September 1992
                      factor
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Pred. No. 2.2e-23;
2; Mismatches 0
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10-Sep-1999 #text_change 10-Sep-1999
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Local Similarity 84., hes 38; Conservative

83.3%;

Score 199; DB 1; pred. No. 3.7e-19; 3; Mismatches 4

Length 155

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acidic fibroblast growth factor - golden hamster N;Alternate names: heparin-binding growth factor 1 C;Species: Mesocricetus auratus (golden hamster) C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999 C;Accession: A60721
Dev. Biol. 138, 454-405, 200
A;Title: Isolation of cDNAs encoding four
A:Reference number: A37360; MUID:90201563
                                             acidic fibroblast growth factor - mouse
N;Alternate names: aFGF; FGF-1
C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999
C;Accession: D37360; JC2231
R;Hebert, J.M.; Basilico, C.; Goldfarb, M.; Haub, O.; Martin, G.R.
Dev. Biol. 138, 454-463, 1990
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A; Residues: 1-155 <GOD:
A; Cross-references: EMBL:X14232; NID:g56351; PIDN:CAA32448.1;
C; Superfamily: fibroblast growth factor
C; Keywords: growth factor; heparin binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Goodrich, S.P.; Yan, G.C.; Bahrenburg, K.; Mansson, P.E. Nucleic Acids Res. 17, 2867, 1989
A;Title: The nucleotide sequence of rat heparin binding growth A;Reference number: S04147; MUID:89240051
A;Accession: S04147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acidic fibroblast growth factor 1 - rat
N;Alternate names: heparin-binding growth factor 1
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990
C;Accession: S04147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Hall, J.A.; Harris, M.A.; Malark, M.; Mansson, P.E.; Zhou, H.; Harris, S.E. J. Cell. Biochem. 43, 17-26, 1990
A;Title: Characterization of the hamster DDT-1 cell aFGF/HGBF-I gene and cDNA A;Reference number: A60721; MUID:90270291
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A; Residues: 1-155 <HAL>
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Pred. No. 1.9e-13;
3; Mismatches 11
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Gene 179, 231-236, 1996
A;Title: Cloning and characterization of the A;Reference number: JC5231; MUID:97128312
A;Accession: JC5231
                                                                                                                                                            acidic fibroblast growth factor - chicken
N;Alternate names: endothelial cell growth factor
C;Species: Gallus gallus (chicken)
C;Date: 03-Mar-1993 #sequence_revision 03-Mar-1993
C;Accession: A60130; S02639
D:cchemorah H. Deich
A; Molecule type: mRNA
A; Residues: 1-155 <SCH>
A; Cross-references: GB:
                                                     A;Title: Differentiating and mature neurons A;Reference number: A60130; MUID:91347925 A;Accession: A60130;
A;Status: preliminary
                                                                                                                                                                                                                                                                 RESULT
A60130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: mRNA
A;Residues: 1-155 <GRI>
C:Comment: This protein is a potent mitogenic factor
C;Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Reference number: A; Accession: JW0055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Grieb, T.W.; Ring, M.; Brown, E.; Palmer, C.; Belle, N.; Donjerkovic, D.; Chang, Biochem. Biophys. Res. Commun. 246, 182-191, 1998
A;Title: Primary structure of ovine fibroblast growth factor-1 deduced by protein a A;Reference number: JW0055; MUID:98262339
A:Accessor. TW0055;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    fiblobrast growth factor-1 - sheep
N;Alternate names: FGF-1
C;Species: Ovis sp. (sheep)
C;Date: 17-Jun-1998 *sequence_revision 10-Jul-1998 *text_change 07-May-1999
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A; Introns: 57/1;
C; Superfamily: f
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-155 <HEB>
                                                                                                                                R;Schnuerch, H.; Risau, W.
Development 111, 1143-1154, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Accession:
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A; Residues: 1-155 <MAD>
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Best Local Similarity 68.2
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 GB:S63263;
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NID:g234372; PIDN:AAB19629.1;
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Pred. No. 1.9e-1
3; Mismatches
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Pred. No. 3.5e-13;
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acidic fibroblast growth factor - pig (fragment)
C;Species: Sus scrofa domestica (domestic pig)
C;Species: 31.Mar-1992 #sequence_revision 31-Mar-1992 #text_change 16-Jul-1999
C;Accession: JH0476; S20072
R;Schmidt, M.; Sharma, H.S.; Schott, R.J.; Schaper, W.
Biochem. Biophys. Res. Commun. 180, 853-859, 1991
A;Title: Amplification_and sequencing of mRNA encoding acidic fibroblast growth factor (A;Reference number: JH0476; MUID:92062117
A;Accession: JH0476
A;Molecule type: mRNA
A;Residues; 1-152 <SCH>
A;Experimental source: heart
A;Experimental source: heart
A;Experimental source: heart
C;Comment: This protein belongs to the fibroblast growth factor (C;Superfamily: fibroblast growth factor; heparin binding F;22-28/Region: nuclear location signal F;133/Binding site: heparin (Lys) #status predicted
Search completed: November 9, 2000, 15:31:52 Job time: 173 sec
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A;Residues: 22-30,'X',32-44,'X',46-48 <RIS>
C;Superfamily: fibroblast growth factor
C;Keywords: growth factor
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EMBO J. 7, 959-962, 1988
A;Title: Endothelial cell growth factors in embryonic and adult chick brain are related A;Reference number: S02639; MUID:88296438
A;Accession: S02639
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Best Local Similarity 67.4

Matches 29; Conservative
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Best Local Similarity 67.4%;
Matches 29; Conservative
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; Pred. No. 4.8e-13;
5; Mismatches 9; Indels
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FGF1_LOTICK
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FGF1_BOVIN
FGF6_HUMAN
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FGF4_MOUSE
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FGF4_HUMAN
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FGF1_MESAU
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FGF2_BOVIN
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FGF2_SHEEP
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FGF3_MOUSE
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                                                                                                                                                                                                                                                                                5 mus musculu
6 gallus gall
2 sus scrofa
0 homo sapien
8 bos taurus
8 mus musculu
7 homo sapien
4 gallus gall
3 bos taurus
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6 homo sapien
1 gallus gall
4 mus musculu
5 xenopus lae
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homo sapien
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bos taurus
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	P21781 homo sa	P36363 mus mus	054769 rattus	043320 homo sa	P36364 rattus norv	P54130 mus mus	P31371 homo sa	Q91875 xenopus	O35565 mus mus	P36386 xenopus	P70492 rattus	015520 homo sa
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-NEW ZEALAND WHITE; TISSUE-SMOOTH MUSCLE;

MEDLINE; 9343209.

Winkles J.A., Friesel R., Alberts G.F., Janat M.F., Liau G.;

"Elevated expression of basic fibroblast growth factor in an immortalized rabbit smooth muscle cell line.";

Am. J. Pathol. 143:518-527(1993).

-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

-i- SUBUNIT: MONOMER.

-i- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
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01-FEB-1996 (Rel. 33, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 (HBGF-2) (BASIC FIBROBLAST GROWTH
FECTOR) (BFGF) (PROSTATROPIN) (FRAGMENT).
                                                                                                                                                    EMBL; L12034; A;A31248.1; -.

HSSP; P09038; 13FF.

INTERPRO; IPR002209; -.

PFAM; PF00167; PGF; 1.

PROSITE; PS00247; HBGF_FGF; 1.

PROSITE; PS00247; HBGF_FGF; 1.

Growth factor; Mitogen; Vascularization; Heparin-binding.
BINDING 18 2 HEPARIN (POTENTIAL).
BINDING 107 110 HEPARIN (POTENTIAL).

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SEQUENCE 137 AA; 15418 MW; OD9EE457B88EBC51 CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
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Score 239; DB 1;
Pred. No. 3.6e-25;
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Ueno N., Baird
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growth factor.";
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Baird A., Esch F., Boehlen P., Ling N., "Isolation and partial characterization factor from the bovine kidney: homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 1-9.
MEDLINE; 86295737.
Ueno N., Baird A.,
                         X-RAY CRYSTALLOGRAPHY (3.0 ANGS MEDLINE; 91095983.
Zhu X., Komiya H., Chirino A., Hsu B.T., Rees D.C.;
                                                                                                                                                                                                                                                                                                                                                     Regul. Pept. 12:201-213(1985).
[6]
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[7]
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ESCh F., Baird A., Ling N.
Gospodarowicz D., Boehlen
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23-OCT-1986 (Rel. 02, Created)
23-OCT-1986 (Rel. 02, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
01-FEB-1996 (Rel. 33, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HEGF-2) (BASIC FIBRO (PROSTATROPIN) (CONTAINS: KIDNEY-DERIVED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Proc. Natl. Acad. Sci. U.S.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ESOh F. Baird A., Ling N., Ueno N., Hill F., Gospodarowicz D., Boehlen P., Guillemin R., "Primary structure of bovine pituitary basic (FGF) and comparison with the amino-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bos taurus (Bovine).
Eukaryota; Metazoa;
Mammalia; Eutheria;
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Baird A., Esch F., Shimasaki S., Ling N., Guillemin R.;
ation and partial characterization of a mitogenic factor
iver: structural homology with basic fibroblast growth
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Cetartiodactyla; Ruminantia;
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terminal e
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     of acidic
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                                                     Faham S.,
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extended form of basic
     and basic
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minantia; Pecora;
                                                Fox G.M.,
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RIVED GROWTH
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Query Match Best Local :

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Conservative

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Mismatches

Similarity

100.0%;

Score 239; DB 1; Pred. No. 4.2e-25;

Length 155; Indels

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Gaps

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Growth factor;
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Science 251:90-93(1991).

CIENCE 251:90-93(1991).

CIENCE 251:90-93(1991).

CIENCE POUCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

CONCENTRATION OF THESE 2 GROWTH FACTORS.

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CONCENTRATION OF THESE 2 GROWTH FACTORS.
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PROSITE; PS00247; HBGF_F
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IPR002348; -.
D0167; PGF; 1.
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KIDNEY DERIVED GROWTH FACTOR.
CELL ATTACHMENT SITE (POTENT)
CELL ATTACHMENT SITE (POTENT)
HEPARIN (POTENTIAL).
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01-NOV-1988
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Cold Spring Harb. Symp. Quant. Biol. 51:657-668(1986).
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                                                                                  "Human brain-derived
                                                                                                                                                                                      Gautschi P., Frater-Schroeder M., Boehlen P.; "Partial molecular characterization of endothelial cell human brain: acidic and basic fibroblast growth factors. FEBS Lett. 204:203-207(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Cloning and expression of cD growth factor."
FEBS Lett. 213:189-194(1987).
    SEQUENCE
                                       Biochem.
                                                                                                                            MEDLINE;
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"High molecular mass
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m. Biophys. Res.
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P., Chalon 1
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86275260.
                                                                                                                            OF 10-39.
86186784.
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                                                                                                                                                                                                                                                                                                                                        Acad.
                                                                                                                                                                                                                                                                                                                                    lar mass forms of basic
alternative CUG codons.
Acad. Sci. U.S.A. 86:183
                                                                                                                                                                                                                                                                                                                                                                                                          ом.,
о Р.,
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Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                       Prats A.C., Klagsbrun M
., Tauber J.P., Amalric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Commun.
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of cDNA encoding human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             144:543-550(1987).
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                                                          nas K.A.;
st growth fac
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                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sorsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                        Biochemistry 35:13552-13561(1996).

-!- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                            Moy F.J., Seddon A.P., Boehlen P., Powers R., "High-resolution solution structure of basic determined by multidimensional heteronuclear i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             scory M.I., Esch F., Shimasaki S., Sasse J., Jacobs S.C., Lawson "Amino-terminal sequence of a large form of basic fibroblast grofactor isolated from human benign prostatic hyperplastic tissue. Biochem. Biophys. Res. Commun. 142:702-709(1987).
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Hsu B.T., Rees
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ago H., Kitagawa Y., I
"Crystal structure of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhang J., Cousens L.S., Barr P.J., Sprang S.R.;
"Three-dimensional structure of human basic fibroblast
a structural homolog of interleukin 1 beta ";
Proc. Natl. Acad. Sci. U.S.A. 88:3446-3451(1991).
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Story M.T., Esch F.,
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                                                                                                                                                                                                                                                        AFGF.
SIMILARITY:
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SUBUNIT: MONOMER
MISCELLANEOUS: TI
M17599;
X04431;
X04432;
X04433;
M27968;
J04513;
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1 A.E.
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                               AAA52534.1;
CAA28027.1;
CAA28028.1;
CAA28029.1;
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onal structure
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growth factor
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RESULT 4
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PROSITE; PS00247; HBGF_FGF;
Growth factor; Mitogen; Vasc
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
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S00297; S00297.

2FGF; 15-APR-92;

4FGF; 15-JUL-93;

1FGA; 15-JUL-93;

1FGB; 03-APR-96;

1BFG; 03-APR-96;

1BFG; 16-JUN-97;
                                  YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                             YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
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B24301;
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A26642;
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2BFH;
1BLA;
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45; Conser
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31-JAN-94
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llarity 100.0%;
Conservative (
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A26642.
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                                                                                AA;
   STANDARD;
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                                                                                          17254 MW;
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                                                    0,
                                                  Score 239; DB 1;
Pred. No. 4.2e-25;
Mismatches 0;
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    PRT;
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                                                             Length 155;
                                                   Indels
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RESULT 5
FGF2_MOUSE STANDARD;
AC P15655;
DT 01-APR-1990 (Rel. 14, Created)
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Best Local :
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BINDING
SEQUENCE
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
Growth factor; Mitogen; Vascularization; Heparin-binding.
PROPER 1 1 9
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01-FEB-1991
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PIR; S00185; S00185.
HSSP; P09038; 1BFF.
INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
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PRINTS; PR00262; | IL1HB
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FEBS Lett. 224:128-132(1987).
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FGF2 OR FGF-2.
Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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MEDLINE: 88055577.
Simpson R.J., Moittz R.L., Lloyd C.J., Fabri L.J., Nice E.C.,
Rubira M.R., Burgess A.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-FEB-1991 (Rel. 17, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AFGF.
- I- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sutton R., Ward W.G., Rasubmitted (SEP-1994) to
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Primary structure of ovine pituitary
                                                                                                                                                                                              33
                                                                                                                                                                                                                    1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIGGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

SUBUNIT: MONOMER.

MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN MISCELLANEOUS:
                                                                                                                                                                                      YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                               l Similarity
45; Conserv
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to the EMBL/GenBank/DDBJ databases
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CELL ATTACHMENT SITE (POTENTIAL).
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
B5F2364BA610606D CRC64;
                                                                                                                                                                                                                                                                                          Score 239; DB 1;
Pred. No. 4.2e-25;
Mismatches 0;
                                                           154
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                                                           Ä
                                                                                                                                                                                                                                                                                                                                          Length
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                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                         77
                                                                                                                                                                                                                                                                                                                                             155;
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Query Match
Best Local S
Matches 44
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PRINTS; PR00263; HBGFFGF; 1.
PROSITE; PS00247; HBGF_FGF; 1.
Growth factor; Mitogen; Vascula
PROPEP 1 19
CHAIN 10 154
BINDING 26 30 HE
BINDING 115 118
SEQUENCE 154 AA; 17153 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWI
between
                                                                                                                                                                    FGF2_RAT P13109;
Mammalia; [1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dev.
                                                                               01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2)
GROWTH FACTOR) (BFGF) (PROSTATROPIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *Isolation of cDNAs encoding four mouse FGF family members characterization of their expression patterns during embryo Dev. Biol. 138:454-463(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-APR-1990 (Rel. 14, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2)
GROWTH FACTOR) (BFGF) (PROSTATROPIN).
                                 Rattus norvegicus (Rat)
Eukaryota; Metazoa; Cho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; M30644; AAA37621.1;
PIR; C37360; C37360.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <del>:</del>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FGF2
                                                                    FGF2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERPRO;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ween the Swiss Institute of Bioinformatics and the European Bioinformatics Institute. There are no rest European Bioinformatics Institute. There are no rest by non-profit institutions as long as its content lifted and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

SUBUNIT: MONOMER.
MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ", MGI:95516; FGF2.
ERPRO; IPRO02209; -.
ERPRO; IPRO02348; -.
M; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS
                                                                                                                                                                                                                     σ
                                                                    OR FGF-2
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                                                                                                                                                                                                                                                                       YCKNGGFFLRIHPDGRVDGVREKSDPHVKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 237360; C37360.
P09038; 1BFF.
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                 Eutheria;
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                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                    STANDARD
               Chordata;
Rodentia;
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Rodentia;
                                                                                                                                                                                                                                                                                                                                                     99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascularization; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    copyright. It is produced through tute of Bioinformatics and the EM
                                                                                                                                                                                                                                                                                                                                       Pred. No. 5.6e
1; Mismatches
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HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
W; 689F677416274388 C
               Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                      PRT;
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                                                                                                                                                                                                                                                                                                                                                        DB 1;
.6e-25;
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                                                                                                                                                                                                                                                                                                                                                                            154;
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Query Match Best Local S Matches 44

l Similarity

Conservative

99.6%;

Score 238; DE Pred. No. 5.6e 1; Mismatches

DB 1; 1 6.6e-25; les 0;

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Kurokawa T., Seno M., 1
"Nucleotide sequence of Nucleic Acids Res. 16 5 13]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shimasaki S., Enoto N., Koba
Cooksey K., Baird A., Ling W.
"Complementary DNA cloning a
fibroblast growth factor and
Biochem. Biophys. Res. Commu
        PROPEP
CHAIN
BINDING
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                                                                                                                                                                                                                                                                                                                                                                                                                                 use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                   Growth
                                                                                                                                                                                                                                                                                                                        EMBL; M22427; AAA41210.1; -. EMBL; X07285; CAA30265.1; -. EMBL; U78079; AAC53225.1; -. EMBL; X61697; CAA43863.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        El-Husseini A.E.D., Paterson J.A., Myal Y., Shiu R.P.C.;
"PCR detection of the rat brain basic fibroblast growth fact
mRNA containing a unique 3' untranslated region.";
Biochim. Biophys. Acta 1131:314-316(1992).
-1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGE
IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TY
VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION
CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 35-154 FROM STRAIN-SPRAGUE-DAWLEY;
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TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-SPRAGUE-DAWLEY;
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                                                                                                           PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
PROSITE; Mitogen; Vaso
                                                                                                                                                                                                                                                             PIR; S00876; S00876.
PIR; A31674; A31674.
HSSP; P09038; 18FF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <del>:</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <del>:</del> <del>:</del> :
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                                                                                                                                                                                                  INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Cloning of the rat fibroblast growth facto its response to mitogenic stimuli in glioma J. Neurochem. 63:898-908(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pasumarthi K.B.S., Jin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ween the Swiss Institute of Bioinf
European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MISCELLANEOUS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AFGF.
SIMILARITY:,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBUNIT: MONOMER.
TISSUE SPECIFICITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation
PS002.
h factor;
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broblast growth factor-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    M N.A.
TISSUE=BRAIN;
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ing N.
                                                                                                             Vascularization; Heparin-binding
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FOUND IN ALL THE TISSUES EXPROTEIN BINDS HEPARIN MORE
             MW;
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          HEPARIN-BINDING GROWTH
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
, 1A0F14FF423D8403 CRC6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Usage
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       promoter cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EXAMINED.
RE STRONGLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             γď
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    restrictions
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       factor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         its mRNA.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGENTS
IN
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RESULT 8
FGF2_MONDO
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                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                      R PRINTS; PRO0262; IL1HBGF.
R PRINTS; PRO0262; HBGFFGF.
R PRINTS; PRO0263; HBGFFGF.
R PROSITE; PRO0247; HBGFF_GFF.
R PROSITE; PRO0247; HBGFF_GFF.
T PROPEP 1 1 12 BY SIMILARITY.
PROPEP 1 1 18 HEPARIN-BINDING GROWTH FACTOR 2
FT CHAIN 30 34 HEPARIN (POTENTIAL).
FT BINDING 19 122 HEPARIN (POTENTIAL).
FT BINDING 19 122 HEPARIN (POTENTIAL).
FT BINDING 19 122 HEPARIN (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                         A CONTRACTOR OF THE TWO PROPERTY OF THE PROPER
            SG
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FGF2_CI
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                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 44
       FGF2_MONDO P48798;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; M95707; AAA48617.1;
HSSP; P09038; 1BFF;
INTERPRO; IPR002209; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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01-FEB-1996 (Rel. 33, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation updat.
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (GROWTH FACTOR) (BFGF).
FGF2 OR FGF-2.
Gallus gallus (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Expression of alternatively spliced bror first coding antisense mRNAs during chicken embryogenesis.";
Dev. Biol. 157:110-118(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO; IPR002348; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE; 93246053.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gallus gallus (Chicken).
Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FGF2_CHICK P48800;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Archosauria;
                                                                                                                                                 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MISCELLANEOUS: THIS
                                                                                                                                        YCKNGGFFLRINPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the Emburopean Bioinformatics Institute. There are no restrict by non-profit institutions as long as its content
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Aves; Neognathae;
                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata; Craniata; Vertebrata; Euteleostomi;
Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                          97.1%;
97.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
                                                                                                                                                                                                                                  Score 232; DB Pred. No. 3.7e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                 HEPARIN-BINDING GROWTH FACTOR HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
78698684C17F1816 CRC64;
                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRECURSOR (HBGF-2)
                             156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    update)
                                                                                                                                                                                                                                                          DB 1;
.7e-24;
                          A
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                                                                                                                                                                                                                                                                             Length 158;
                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                      45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       exons
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IN
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OCCUPATE DE COCO
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FGF2_X
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Query Match
Best Local S
Matches 43
                                                                                                                                                                                                                                                                                                                                                  EXENLA
FGF2_XENLA
P12226;
01-OCT-1989
01-JAN-1990
01-NOV-1997
 Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; Me
                                               GROWTH FACTOR) (BFGF). FGF2 OR FGF-2.
                                                                        01-OCT-1989 (Rel. 12, Created)
01-JAN-1990 (Rel. 13, Last seq
01-NOV-1997 (Rel. 35, Last ann
HEPARIN-BINDING GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; 215154; CAA78854.1; ALT_INIT. HSSP; P09038; 1BFF. INTERPRO; IPR002209; -. INTERPRO; IPR002348; -. PFAM; PF00167; FGF; 1. PFAM; PF00167; FGF; 1. PFINTS; PR007562; ILTHBGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                             Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Characterization of cDNA encoding basic fibroblast growth fact the marsupial Monodelphis domestica.";
DNA Cell Biol. '13:549-554(1994).
-!- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
-!- SUBUNIT: MONOMER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=EYE;
MEDLINE; 94296558
Kusewitt D.F., Sal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1996 (Rëi. 33, Created)
01-FEB-1996 (Rei. 33, Last sequence update)
01-NOV-1997 (Rei. 35, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Monodelphis domestica (Short-tailed grey opossum).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Metatheria; Didelphimorphia; Didelphidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GROWTH FACTOR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (BFGF)
                                                                                                                                                                                                                                                                                               95.68;
                                                                      Last sequence update)
Last annotation update)
H FACTOR 2 PRECURSOR (HBGF-2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (PROSTATROPIN)
                                                                                                                                                                                                                                                                                              . 6%;
                                                                                                                                                                                                                                                                                                                                                                                                                               Vascularization;
                                                                                                                                                                                                                                                                                                                                                          MW;
a; Craniata; Vertebrata; Euteleostomi;
Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                              Score 231; DB 1
Pred. No. 5e-24;
                                                                                                                                                                                                                                                                                                                                                       HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
7E655FCC49BF1209 C
                                                                                                                                                                                                                                                                                                                                                                                                Alarization; Heparin-binding.
BY SIMILARITY.
HEPARIN-BINDING GROWTH FACTOR
                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                   155
                                                                                                                                                  A
                                                                                                                                                                                                                                                                                                            1.
                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                        CRC64;
                                                                                                                                                                                                                                                                                Indels
                                                                         (BASIC FIBROBLAST
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Monodelphis.
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RESULT
FGF1_MI
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Best Local S
Matches 38
 SEQUENCE FROM N.A.
MEDLINE; 90270291.
Hall J.A., Harris M.A., Ma
"Characterization of the h
and its modulation by ster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
PRINTS; PR00262; TLIHBGF.
PRINTS; PR00263; HBGFFGF.
PRO251E; PS00247; HBGF FGF; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF 95-155 fav...

MEDLINE; 88052890.

KimeLhan D., Kirschner M.;

"Synergistic induction of mesoderm by
"Synergistic induction of mesoderm by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
BINDING
BINDING
                                                                                                                                                                                FGFI_MESAU STANDARD; PRT; 155 AA. p34004; 01-FEB-1994 (Rel. 28, Created) 01-FEB-1994 (Rel. 28, Last sequence update) 15-JUL-1999 (Rel. 38, Last annotation update) HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) GROWTH FACTOR) (AFGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kimelman D., Abraham J., Haapa:
"The presence of fibroblast groas a natural mesoderm inducer.
Science 242:1053-1056(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            [1]
SEQUENCE
                                                                                                                        Mammaı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M18067; AAA49726.1;
PIR; A29618; A29618.
PIR; A40117; A40117.
HSSP; P09038; 1BFF.
                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                            FGF1 OR FGF-1
                                                                                                                                                                                                                                                                                                                   MESAU
                                                                                                          Mesocricetus
                                                                                                                                                          Mesocricetus auratus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                      \mathfrak{S}
                                                                                                                                                                                                                                                                                                                                   10
                                                                                                                                                                                                                                                                                                                                                                                  YCKNGGFFLRINSDGRVDGSRDKSDSHIKLQLQAVERGVVSIKGI
                                                                                                                                                                                                                                                                                                                                                                                                      YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor; Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       . Similarity 38; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FROM N.A.
89058621.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       83.3%;
larity 84.4%;
Conservative
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10
27
M.A., Malark M.,
of the hamster D
n by steroids.";
                                                                                                                        Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vascularization; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WW.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HEPARIN-BINDING GROWTH FAC'S HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
HISSING (IN REF. 2).
MISSING (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          paranta T., Palisi T., Kiz
growth factor in the frog
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 199; DE Pred. No. 9.86 3; Mismatches
                                                                                                                   hamster).
; Craniata; Vertebrata; I
; Sciurognathi; Muridae;
                 ., Mansson P.E., Zhou H., Ha:
DDT-1 cell aFGF/HGBF-I gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 y FGF and TGF-beta and FGF in the early Xenop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
.8e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
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                                                                                                                                                                                                           (ACIDIC
                                                                                                                        Euteleostomi;
; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FACTOR
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                 Harris S.E.;
ene and cDNA
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Query Match
Best Local :
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PRINTS; PR00263; HBGFFGF; 1.

PROSITE; PS00247; HBGFFGF; 1.

Growth factor; Mitogen; Vascularization; He propep 1 15 BY SIMILARITY CHAIN 16 155 HEPARIN.BINDING 24 28 HEPARIN (POTEI BINDING 113; 116 HEPARIN (POTEI SEQUENCE 155 AA; 17403 MW; 41E5EC760E4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SIMILARITY: BELONGS T
PIR; A60721, A60721.
HSSP; P05230; ZAXM.
INTERPRO; IPR002209; -
INTERPRO; IPR002348; -
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 _MOUSE STANDARD; PRT; 155 AA P10935; O1-JUL-1989 (Rel. 11, Created) O1-JUL-1989 (Rel. 11, Last sequence update) 15-JUL-1999 (Rel. 38, Last annotation update) HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR ()
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Cell. Biochem. 43:17-26(1990).

-:- FUNCTION: THE HEPARIN-BIDDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

-!- SUBUNIT: MONOMER.
-!- MISCELLAMBOUS: THIS PROTEIN BINDS HEPARIN, ALTHOUGH LESS STETHAN DOES BYGE.
                                                                                                                                                                                          MEDLINE; 90201563.

Hebert J.M., Basilico C., Goldfarb M., Haub O., Martin G.R.

"Isolation of cDNAs encoding four mouse FGF family members
characterization of their expression patterns during embryo
Dev. Biol. 138:154-463(1990).
                                              MEDLINE; 97128312.
Madiai F., Hackshaw K.V., Chiu
"Cloning and characterization
Gene 179:231-235(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GROWTH FACTOR) (AFGF).
FGF1 OR FGF-1 OR FGFA.
                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE; 89240051.

Goodrich S., Yan G.C., Bahrenburg K., Mansson P.

"The nucleotide sequence of rat heparin binding
  SPECIES-MOUSE;
                  SEQUENCE FROM N.A
                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. SPECIES=RAT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mɔuse), and Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                           SPECIES-MOUSE
                                                                                                                                                                                                                                                                                                                                                    Nucleic
                                                                                                                                                                                                                                                                                                                                                                        (HBGF-1)."
                                                                                                                                                                                                                                                                                                           EQUENCE FROM N.A.
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0; Conservative
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24
113
155 /
STRAIN-BALB/C;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROTEIN BINDS HEPARIN, ALTHOUGH LESS STRONGLY
                                                                                               Chiu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 156; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ψ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HEPARIN (POTENTIAL)
HEPARIN (POTENTIAL)
, 41E5EC760E412CC5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HEPARIN-BINDING GROWTH FACTOR
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PRECURSOR (HB
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                                                                            the
                                                                            mouse
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                                                                          Fgf-1 gene.";
                                                                                                                                                                                                                                                                                                                                                                                      ng growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Euteleostomi;
Murinae; Mus
                                                                                                                                                                                                              embryogenesis.";
                                                                                                                                                                                                                                                     G.R.;
                                                                                                                                                                                                                                                                                                                                                                                          factor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FIBROBLAST
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Best Local Similarity
Matches 30; Conser
SEQUENCE FROM N.A. MEDLINE; 91347925.
Schnurch H., Risau V "Differentiating and
                                                                                                                                                                                   L_CHICK
FGF1_CHICK
P19596;
                                                                                                      01-FEB-1991 (Rel. 17, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST GROWTH FACTOR) (AFGF) (ALPHA-ENDOTHELIAL CELL GROWTH FACTOR).
FGF1 OR FGF-1.
                                                                                                                                                                                                                                                                                                                                                                 BINDING
BINDING
SEQUENCE
                                                                                   Eukaryota; Metazoa; Chordata;
                                                                                                 Gallus gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; X14232; CAA32448.1; -.
EMBL; M30641; AAA37618.1; -.
EMBL; U36459; AAC52969.1; -.
EMBL; U36457; AAC52969.1; JOINED.
EMBL; U36458; AAC52969.1; JOINED.
EMBL; U36458; AAC52969.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and its expression in the adult and developing mouse brain.";

J. Biol. Chem. 271:30263-30271(1996).

-I- FUNCTION: THE HEPARIN-BLUDING GROWTH FACTORS ARE ANGIOGENIC AGENT IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

-I- SUBUNIT: MONOMER.

-I- SUBUNIT: MONOMER.
                                                                Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIR;
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Alam K.Y
                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; #BGFFGF.
PROSITE; PS00247; HBGF_FGF;
GIOWTh factor; Mitogen; Vasc
PROPEP 1 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         modified and this statement is not renentities requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chiu I.M.; "Characterization of the
                                                                                                                                                                                                                                                          30
                                                                                                                                                                                                                                                                                  <u>_</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; S04147;
; D37360;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           European Bioinformatics Institute.
                                                                                                                                                                                                                                                                    YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; P05230; 2AXM.
MGI:95515; FGF1.
                                                                                                                                                                                                                                                      YCSNGGHFLRILPDGTYDGTRDRSDQHIQLQLSAESAGEYYIKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SWISS-PROT entry is copyright. It is produced through a centre the Swiss Institute of Bioinformatics and the EMBL
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113
155
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                                                                                                                                                                                                                                                                                                        Conservative
                                                                        Aves; Neognathae;
                                                                                              (Chicken).
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   and
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  mature neurons
                                                                                                                                                                                                                                                                                                                 65.3%;
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                                                                                                                                                                                                                                                                                                                                                                   WW;
                                                                                                                                                                                                                                                                                                   Score 156; DB
Pred. No. 5.8e
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                               HEPARIN-BINDING GROWTH
HEPARIN (POTENTIAL):
HEPARIN (POTENTIAL):
8880E4FF0FBA4161 CRC6
                                                                                   Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                             PRT;
                                                                        Galliformes; Phasianidae; Phasianinae;
  express
                                                                                                                                                                                             155
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.8e-14
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  the
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  acidic
                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                                                                                                                                                                           Length 155;
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fibroblast
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IN
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RESULT 13

FGF1_FIG

ID FGF1_PIG STANDAN...

AC P20002;

DT 01-FEB-1991 (Rel. 17, Created)

DT 01-FEB-1996 (Rel. 33, Last sequence update)

DT 15-JUL-1999 (Rel. 38, Last annotation update)

DE HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (AC "ROWTH FACTOR") (AFGF) (ALPHA-ENDOTHELIAL CELL GROWTH I
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Best Local S
Matches 29
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BINDING
BINDING
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EMBL; U31863; AAA80310.1; -.
EMBL; S63261; AAD13942.1; -.
PIR; S02639; S02639.
HSSP; P05230; 2AXM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a control between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and for the statement is not removed. Usage by and the control of the statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
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Martin G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
PFAM: PF00167; FGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Risau W.,
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"Endothelial ceil growth
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FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
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MISCELLANEOUS: THIS
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G.R., Han J.K.
ed (JUL-1995)
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88296438.
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17322 MW;
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HEPARIN (POTENTIAL);

8EDB70545E2B4365 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 153; DB 1;
Pred. No. 1.5e-13;
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                                                                                                                          3F-1) (ACIDIC FIBROBLAST
GROWTH FACTOR)
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factor.";
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Sus.
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RESULT 14
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Best Local Similarity
Matches 29; Conser
                                FGF1_HUMAN STANDARD,
FGF1_HUMAN STANDARD,
P05230; P07502;
13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (HBGF-1) (HBGF-1) (HBGF-1) (HBGF-1) (HBGF-1) (HBGF-1)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Isolation of heparin-binding growth factors from bovine, porcin canine hearts.";
Eur. J. Blochem. 181:67-73(1989).
-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
-i- SUBUNIT: MONOMER.
-i- SUBUNIT: MONOMER.
FGF1 OR FGFA.
Homo sapiens (Human)
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE
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MEDLINE; 89231704.
Quinkler W., Maasberg N., Schaper W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schmidt M., Sharma H.S., Schott R.J., Schaper W.;
"Amplification and sequencing of mRNA encoding acidic growth factor (aFG) from portine heart.";
Biochem. Biophys. Res. Commun. 180:853-859(1991).
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SEQUENCE
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PF00167; FGF; 1.
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Chordata;
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HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
C -> S (IN REF. 2).
R -> Y (IN REF. 2).
                                                                                                                                                                                                                                                       ^{\omega}
                                                                                                                                                                                                                                                     Score 148; DB 1;
Pred. No. 6.7e-13;
3; Mismatches 11
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     Craniata;
                                                                                                                                                                                                                                                                                                                     AE853B0A92F9ABF4 CRC64;
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     Vertebrata;
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H FACTOR) (ECGF-
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     Euteleostomi;
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     [10]
SEQUENCE
                                                                                                                         MEDLINE: 90365758.

Crumley G., Dionne C.A., Jaye M.;

"The gene for human acidic fibroblast growth factor upstream exons alternatively spliced to the first company alternatively spliced to the first company."

Pincham Richhys. Res. Commun. 171:7-13(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biochem.
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O'Brien S.J., Modi W.S., Maciag
"Human endothelial cell growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE;
Jaye M.,
                                      MEDLINE; 86296647.

Harper J.W., Strydom D.J., Lobb R.R.;

"Human class 1 heparin-binding growth factor: structure
to bovine acidic brain fibroblast growth factor.";

piochemistry 25:4097-4103(1986).
                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE; 9220
Li Y.L., Kha
                                                                                                                                                                                                                                                                                                                                                                                                                                    Wang W.P., Quick D., Balcerzak S.P., Needleman S.W., Chiu I.M.; "Cloning and sequence analysis of the human acidic fibroblast growth factor gene and its preservation in leukemia patients."; Oncogene 6:1521, 1529(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mergia A., Tischer E., Graves D., Tumolo A., Miller J., Gospodarowicz D., Abraham J.A., Shipley G.D., Fiddes J.C.; "Structural analysis of the gene for human acidic fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chiu I.M., Wang W.P., Leh
"Alternative splicing gen-
heparin-binding growth fa-
Oncogene 5:755-762(1990).
                                                                                                                                                                                                                                                     growth
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                                                                                                                                                                                                                                                                                           SEQUENCE OF 1-154 FROM N.A. MEDLINE; 94069734.
                                                                                                                                                                                                                                                                                                                             "An acidic fibroblast growth factor splicing acts like an antagonist."; J. Exp. Med. 175:1073-1080(1992).
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MEDLINE; 90265618.
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    OF 16-155
86295741.
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86261805.
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generates two
h factor 1.";
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MEDLINE; 87048871.

Gautschi-Sova P., Mueller T.,

"Amino acid sequence of human
Biochem. Biophys. Res. Commun.
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"1H-NMR assignment and solution
growth factor activated by inosi
J. Mol. Biol. 242:81-98(1994).
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Gautschi P., Frater-Schroeder M., Boehlen P.;

"Partial molecular characterization of endothelial cell mitogens human brain: acidic and basic fibroblast growth factors.";

FEBS Lett. 204:203-207(1986).
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Bloohem. Biophys. Res. Commun. 138:61
EMBL;
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Blaber M., Disalvo J., Thomas K.A.;
"X-ray crystal structure of human a
Biochemistry 35:2086-2094(1996).
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Biochem. Biophys.
                                                                                         modified and entities requ
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        M13361;
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CAA36206.1;
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acidic fibroblast
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01-MAR-1989 (Rel. 10, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST GROWTH FACTOR) (AFGF) (PROSTATROPIN) (ENDOTHELIAL CELL GROWTH FACTOR BETA AND ALPHA CHAINS) (ACIDIC EYE-DERIVED GROWTH FACTOR II) (EDGF
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PRINTS; PRO0263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
Growth factor; Mitogen; Vaso
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
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Mammalia; Eutheria;
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                                 TISSUE-RETINA;
MEDLINE; 89083506.
Halley C., Courtois Y., Laurent M.;
"Nucleotide sequence of bovine acidic
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          SEQUENCE FROM
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SL; X65778; CAA46661.1;
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                          16:10913-10913(1988).
                                                                                          Cetartiodactyla;
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HEPARIN (POTENTIAL).
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                                  growth factor cDNA.";
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TISSUE=RETINA;

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MEDIINE: 86055750.

Boehlen P., Esch F., Baird A.

"Acidic fibroblast growth fac
amino-terminal sequence and c
EMBO J. 4:1951-1956(1985).
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Science 2
[6]
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MEDLINE; 89231704.

Quinkler W., Massberg M., Bernotat-Da
Sharma H.S., Schager W.;

"Isolation of heparin-binding growth
canine hearts.";
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Proc. Natl. Acad. Sci. U.S.A. 83:7216-7220(1986).
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Alterio J
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Abraham J.A., Mergia A., Whang J.L., Tumolo A., Hjerrild K.A., Gospodarowicz D., Fiddes J.C.; "Nucleotide sequence of a bovine clone encoding protein, basic fibroblast growth factor."; Science 233:545-548(1986).
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                                                                Science 251:90-93(1991).

-!- FUNCTION: THE HEBRARIN-BINDING GR-
-!N VIVO AND ARE POTENT MITOGENS
VITRO. THERE ARE DIFFERENCES IN
CONCENTRATION OF THESE 2 GROWTH
                                                                                                                                                                                                                   MEDLINE;
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MEDLINE; 86261806
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Disalvo J., Thomas
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Bordoli R.S., McKeehan
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MEDLINE; 87016918
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cell growth factor.";
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Hsu B.T., Rees D.C.
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 THAN DOES BFGF. SIMILARITY: BEI
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he EMBL/GenBank/DDBJ da
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Growth factor 3D-structure.
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INTERPRO; IPR002348; -.
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28; Conservative
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Copyright (c) 1993 - 2000 Compugen Ltd
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"I expression of basic fibroblast growth factor transcripts in human
"granulosa and cumulus cells from in vitro fertilisation patients.";
"L Biochem. Biophys. Res. Commun. 187:1227-1231(1992).

"EMBL; 3704513; AAA52552.1; -.

"REMBL; 47480; AAD13853.1; -.

"REMBL; 47480; AAD13853.1; -.

"REMBL; 574780; AAD13853.1; -.

"REMBL; 574780; IPRO02209; -.

"INTERPRO; IPRO02209; -.

"RITERPRO; IPRO02348; -.

"REPRINTS; PRO0167; FGF; 1.

"PFAM; PF00167; FGF; 1.

"PFAM; PF00167; FGF; 1.

"REPRINTS; PR00263: HIGHEFFF;

"REPRINTS; PR00263: HIGHEFFF;

"REPRODOM; PR00263: 1.310.0 Mg; 1.00.0 Mg; 1.00.0 Mg; 1.10.0 Mg; 1.00.0 Mg; 1.10.0 Mg; 1.10.0
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01-MAY-1997 (TrEMBLrel. 03, Created)
01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
21 KDA BASIC FISROBLAST GROWTH FACTOR (BFGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Prats H., Kaghad M., Prats A.C., Klagsbrun M., Lelias J.M., Liauzun P., Chalon P., Tauber J.P., Amalric F., Smith J.A., Caput "High molecular mass forms of basic fibroblast growth factor are initiated by alternative CUG codons."; Proc. Natl. Acad. Sci. U.S.A. 86:1836-1840(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Watson R., Anthony F., Pickett M.,
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Oyzt62 cucumis sat
P7925 xenopus lae
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"The role bFGF in canine Hemangiosarcoma.";

Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases.

C -! FUNCTION: WIDE-SPECTRUM MITGGENIC, ANGIOGENIC, AND NEUROTROPHIC FACTOR. IMPLICATED IN A MULTITUDE OF PHYSIOLOGIC AND PATHOLOGIC PROCESSES, INCLUDING LIMB DEVELOPMENT, ANGIOGENESIS, WOUND HEALING, AND TUMOR GROWHL. POTENT MITGGEN AND CHEMOATTRACTANT FOR MESENCHYME-DERIVED CELLS. IMPLICATED IN THE DIFFERENTIATION, PROLIFERATION, AND MAINTENANCE OF CELLS IN THE CENTRAL MERVOUS SYSTEM AND IN BOME FORMATION. MAJOR ANGIOGENIC FACTOR THAT ALSO C. SUSTEM AND IN BOME FORMATION. MAJOR ANGIOGENIC FACTOR THAT ALSO C. SUSTEM AND SECONAS A QUATERNARY COMPLEX WITH TWO FGFR1 AND AT LEAST ONE HEPBARN SULFATE (BY SIMILARITY).

C -!- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY. BE BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammaiia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1998 (TIEMBLIEL 08, Created)
01-NOV-1998 (TIEMBLIEL 08, Last sequence update)
01-NOV-1998 (TIEMBLIEL 13, Last annotation update)
01-MAY-2000 (TIEMBLIEL 13, Last annotation update)
BASIC FIBROBLAST GROWTH FACTOR (BFGF) (FGF-2) (HEPARIN-BINDING GROWTH FACTOR 2) (HBGF-2) (PROSTATROPIN) (PROSTATIC GROWTH FACTOR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-ADRENAL GLAND;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Phosphorylation;
        1-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (FRAGMENT).
                                                                                                                                         1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 74
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                                                                                                                                                                                                                                                                                                                                                                                                                                      TER
                                                                                                                        YCKNGGFFLRIHPDGRVDGVREKSDPHVKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P09038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF00167; FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   factor; Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PS00247; HBGF_FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
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                                                                                                                                                                                                                                                                                              103
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          (TrEMBLrel.
                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                              130 AA;
                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Developmental
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65
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130
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                                                                                                                                                                                                             99.68;
          21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascularization; Heparin-binding
                                                                                                                                                                                                                                                                              WW.
                                                                                                                                                                                           ; Score 238; DB; Pred. No. 5.2e
          Created
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                            HEPARIN (BY SIMILARITY).
HEPARIN (BY SIMILARITY).
HEPARIN (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                               CELL ATTACHMENT SITE (POTENTIAL)
CELL ATTACHMENT SITE (POTENTIAL)
                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 239; DB 4;
Pred. No. 6.2e-23;
Mismatches 0;
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                                            170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          130
                                                                                                                                                                                         DB 6; I
.2e-23;
les 0;
                                        A
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                                                                                                                                                                                                                                                                                                                                                                                              (POTENTIAL).
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                                                                                                                                                                                       0;
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                                                                                                                                                                                       Gaps
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                                                                                                                                                                                       0;
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RA MOSCATELLIAN; 8/20905.

RA MOSCATELLIAN; 8/20905.

RT molecular weight form of basic fibroblast growth factor.";

RT molecular weight form of basic fibroblast growth factor.";

RT molecular weight form of basic fibroblast growth factor.";

RT molecular weight form of basic fibroblast growth factor.";

RT molecular weight form of basic fibroblast growth factor.";

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RT molecular weight form growth factor.";

RT molecular weight form growth factor.";

RT molecular weight form growth factor.";

RT molecular period growth factor.";

RT molecular period growth factor.";

RT molecular period growth factor.";

RT produced from recoded by USE of ALTERNATIVE TRANSLATION

CC istillarity for the herbarin-binding growth factors family.

CC istillarity for the herbarin-binding growth factors family.

CC istillarity for the herbarin-binding growth factors gramity.

CC istillarity period fibroblast growth factors family.

CC istillarity for the herbarin-binding growth factors family.

CC istillarity for the herbarin-binding growth factors gramity.

CC istillarity for the fibroblast growth factors.

RT molecular weight form factors.

RT molecular family.

REPORT FACTOR TRANSLATION.

AND ISTEMBARING.

RT molecular family.

RT molecular family.

RT molecular family.

RT molecular family
                                                                                                                                                                                                                                                    PFAM; PF00167; EGF; 1.

PRINTS; PR00262; IL1HBGF
PRINTS; PR00263; HBGFFGF:
PROSITE; PR00263; HBGFFGF: 1.

Growth factor; Mitogen; Vascular
Alternative initiation; Methylat
INIT_MET DOMAIN NON_CONS
                                                                                                     CHAIN
CHAIN
                                                                                                                                                                                                      NON_TER
                                                                                                                                                                                                                                  Developmental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Burgess W.H., Bizik J., Mehlman T., Quarto N., Rifkin D.B.; "Direct evidence for methylation of arginine residues in high molecular weight forms of basic fibroblast growth factor."; Cell Regul. 2:87-93(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sommer A., Moscatelli D., Rifkin I "An amino-terminally extended and of a 25kD basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-2000 (TriMBLrel. 13, Last sequence update)
01-JUN-2000 (TriMBLrel. 14, Last annotation update)
FIBROBLAST GROWTH FACTOR 2 (FGF-2) (FIBROBLAST GROWTH FACTOR, BASIC)
(BFGF) (HEPARIN:BINDING GROWTH FACTOR 2) (HBGF-2) (PROSTATROPIN)
(PROSTATIC GROWTH FACTOR) (FRAGMENTS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHARACTERIZATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochem. Biophys.
[3]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PARTIAL SEQUENCE, AND METHYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF N-TERMINUS, PARTIAL SEQUENCE, MEDLINE; 89273588.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cavia porcellus (Guinea pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ricciardelli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              87289686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Metazoa;
Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            53-170
          51222151
                                                                                                                                                                                                                                  protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chordata;
Rodentia;
                                                                                                                                                                                                                                                           Vascularization; Heparin-binding; Methylation; Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rifkin D.B.;
                                                              25 KDA BASIC FIBROBLAST
18 KDA BASIC FIBROBLAST
FOR 18 KDA FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata;
Hystricognathi; Caviid
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factor.";
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                                                                                              GROWTH
GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Euteleostomi;
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                                                                                              FACTOR.
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Best Local S
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Best Local S
Matches 40
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01-NOY-1996 (TIEMBLIEL 01, Created)
01-NOY-1996 (TIEMBLIEL 01, Last sequence update)
01-MAY-2000 (TIEMBLIEL 13, Last annotation update)
BASIC FIBROBLAST GROWTH FACTOR (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NON_TER
SEQUENCE
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01-MAY-1997 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
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                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INTERPRO; IPRO02209; -.
PFAM; PF00167; FGF; 1.
PROSITE; PS00247; HBGF_FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Serial expression of the genes in a mesodermalizing ecearly Cynops gastrula.";
Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Suzuki A.S., Tabata
Kaneda T.;
                                                                                                                                                                                                                       Q16443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; D89443; BAA13958.1;
HSSP; P09038; 2BFH.
    SEQUENCE
                                                                                    Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-EMBRYO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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NGGFFLRIHPDGRVDGVREKTDPHIKLQLQAEDRGVVSIKGV
                                                                                                                                                                                                                                                                                                                           40;
                                                                                                                                                                                                                                                                                                                                                                                                                 39; Conservative
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                                                                                                                                                                                                                       PRELIMINARY;
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11906 MW;
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                                      Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                    84.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              88.7%;
95.2%;
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CELL ATTACHMENT SITE (POTENTIAL).
HEPARIN (BY SIMILARITY).
HEPARIN (BY SIMILARITY).
HEPARIN (BY SIMILARITY).
METHYLATION (MONO- OR DI-).
METHYLATION (MONO- OR DI-).
METHYLATION (MONO- OR DI-).
PHOSPHORYLATION (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
Last sequence
Last anno
                                                                                                                                                                                                                                                                                                                                                                                                               Score 203; DB 13; Pred. No. 1.1e-18; 3; Mismatches 3;
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Pred. No. 1.4e-19;
2; Mismatches 0;
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Craniata; Vertebrata; Euteleostomi;
Salamandroidea; Salamandridae; Cynops
                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            74A16C866C1F457A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence up
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ATTACHMENT SITE (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 101;
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ID Q0
AC Q0
DT 01
DT 01
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Best Local S
Matches 27
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Best Local S
Matches 27
Q9UBK1;
Q9UBK1;
01-MAY-2000
01-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rissue-BLOOD;
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PFAM; PR002209; -.
PFAM; PF00167; FGF; 1.
NON_TER 114 114
SEQUENCE 114 114
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000527;

01-JAN-1998 (TrEMBLrel. 05

01-JAN-1999 (TrEMBLrel. 05

01-MAY-2000 (TREMBLrel. 13

BASIC FIBROBLAST GROWTH FF

FGF-2 OR FGF2.
                                                                                                                                                                                                                                                                                                                                               Handschug K., Archoukieh "Mutations in the 5' untr transition G to'A on posi 97.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Florklewicz R.Z., Shibata F., Baranklewicz Gonzalez A.M., Florklewicz E., Shah N.; Bassic fibroblast growth factor gene expres Ann. N. Y. Acad. Sci. 638:109-126(1991).
                                                                                                                                                                                                                                                                                        EMBL; AJ250952; CAB61690.1; HSSP; P09038; 19FF.
                                                                                                                                                                                                                                                                                                                               Submitted (NOV-1999) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                         Handschug K., Glaeser C.;
"Polymorphism in the 5' untranslated region of transition (79 bp upstream of the first CTG cc submitted (MAY-1997) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERPRO; IPR002209; -. PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; S81809; CAB33978.1;
HSSP; P09038; 1BFF.
                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE; 92152654.
                                                                                                                           1 YCKNGGFFLRIHPDGRVDGVREKSDPH
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                                                                                                           YCKNGGFFLRIHPDGRVDGVREKSDPH
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                                                                                                                                                                                                                                                                                                                  Y13468; CAA73868.1;
                                                                                                                                                              ch 65.3%;
| Similarity 100.0%;
| 27; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity 100.
27; Conservative
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(TrEMBLrel. 13, (TrEMBLrel. 13,
                                         PRECIMINARY;
                                                                                                                                                                                                                   114
11688 >
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11670 MW;
                                                                                                                                                                                                                                                                                                                                                          untranslated region position 19 and trans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 wth factor gene expression. 638:109-126(1991).
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09, Last sequence update)
13, Last annotation update)
FACTOR (FRAGMENT).
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Created)
Last seq
                                                                                                                                                              Score 156; DE Pred. No. 1.2 0; Mismatches
                                                                                                                                                                 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Catarrhini; Hominidae
                                         PRT;
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                                         59
                                                                                                                                                                              DB 4;
1.2e-12;
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s 0;
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sequence update)

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RESULT
Q16089
ID AC Q1
DT Q1
DT Q1
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RESULT
Q16588
ID Q1
AC Q1
DT 01
DT 01
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Best Local S
Matches 19
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Best Local Similarity 70...
Matches 21; Conservative
                   Q16588;
Q1-NOV-1996
Q1-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INTERPRO; IPR002209; -. PFAM; PF00167; FGF; 1. NON_TER 59 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

MEDLINE; 9469734.

Zhao X.M., Yeoh T.K., Hiebert M., Frist W.H., Miller G.G.;

"The expression of acidic fibroblast growth factor (hepari growth factor-1) and cytokine genes in human cardiac allog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q16089 PRELIMINARY; PRT; 59 AA. Q16089; 01-NOV-1996 (TrEMBLrel. 01, Created) 01-NOV-1996 (TrEMBLrel. 01, Last sequence update) 01-MAY-2000 (TrEMBLrel. 13, Last annotation update) ACIDIC FIBROBLAST GROWTH FACTOR (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Transplantation 56:1177-1182(1993).
EMBL; S67294; AAB29059.1; -.
HSSP; P05230; 2AXM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. MEDLINE; 93181239.
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EMBL; L01487; AAA52447.1; -.
EMBL; L01485; AAA52425.1; -.
INTERPRO; IPRO02209; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Payson R.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUN-2000 (TrEMBLrel.
ACIDIC FIBROBLAST GROWT)
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Myers R.L., Chiu I.M.,
"Cloning of two novel forms of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
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                                                                                                                                                                                                                                                                         30
                                                                                                                                                                                                                                                                                               1 YCKNGGFFLRIHPDGRVDGVREKSDPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30
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                                                                                                                                                                              9
                                                                                                                                                                                                                                                               YCSNGGHFLRILÆDGTVDGTRDRSDQH 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YCSNGGHFLRILPDGTVDGTRDRSDQHIQL
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ER 59 59
                                                                                                                                                                                                                                                                                                                                                                                          l Similarity 70.4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        59 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              s (Human).
Metazoa; Chordata; C
Metazoa; Primates; C
                      (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          59 AA; 6606 MW;
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                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6595 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                       45.68;
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                   21,
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I FACTOR (
                Created)
Last seq
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                                                                                                                                                                                                                                                                                                                                                                                       Score 109; DE Pred. No. 5.66
2; Mismatches
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Pred. No. 4e-0
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9C83D1E64847148A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9894A5F64847148A CRC64;
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                                                                                                                                                                                                                                                                                                                            27
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(FRAGMENT).
                   sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 59;
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Best Local (
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054837;
01-JUN-1998 (Tremblrel. 06, C
01-JUN-1998 (Tremblrel. 06, L
01-MAY-2000 (Tremblrel. 13, L
FIBROBLAST GROWTH FACTOR-1 (F
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse).
Mus musculus (Mouse).
Eukaryota; Metázoa; Chordata;
Eukaryota; Futheria; Rodentia;
                                                                                                                                                                                                                             Zhang Y.-X., Hackshaw K.V.;
Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases EMBL; AF013926; AAB94020.1; -.
HSSP; P05230; 2AXM.
INTERPRO; IPR002209; -.
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SEQUENCE
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HOMO sapiens (Human).
Homo sapiens (Human).
Horvota; Metagoa; Chordata;
Horvota; Metagoa; Primates;
                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Turck E.J.;
"An acidic fibroblast growth
"Explicing acts like an antagon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE; 92202857.
Li Y.L., Kha H., Golden
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                        YCKNGGFFLRIHPDGRVDGVREKSDPH
                                                                                                                                                                         ; PF00167; FGF;
TER 70
ENCE 70 AA; 7
YCSNGGHFLRILPDGTVDGTRDRSDQH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              X.M., Yeoh T.K., Hiebert M., Frist W.H., Miller G.G.; expression of acidic fibroblast growth factor (heparin-binding the factor-1) and cytokine genes in human cardiac allografts and the factor-1.
                                                                               1 Similarity
19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  l Similarity
19; Conserv
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                                                                               Conservative
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7677
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                                                                                                45.6%;
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70.4%;
                                                                                                                                                                                MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
                                                                           Score 109; DE Pred. No. 6.8e 2; Mismatches
                                                                                                                                                                              D5FD16ACC498EBA6
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Migchielsen A.A.J.,
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Mismatches
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ام. 5.
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.8e-07;
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.7e-07;
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                                                                                                                                                                              CRC64;
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; Homo.
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Best Local Similarity
Matches 23; Conser
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01-MAY-1999
01-MAY-1999
01-JUN-2000
mammalian vertebrate: continuous expressic
fiber hyperplasia.",
Biochim. Biophys. Acta 1443:305-314(1998).
EMBL; Y16850; CAA76422.1; -.
EMBL; P09038; IBFF.
INTERPRO; IPR001064; -.
INTERPRO; IPR001064; -.
INTERPRO; IPR002348; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                INTERPRO; IPRO02309; -.
INTERPRO; IPRO02348; -.
FFAM; PF00167; FGF; 1.
PRINTS; PRO0262; IL1HBGF.
PROSITE; PS00247; HBGF_FGF; 1.
PRODOM; PD000831; -; 1.
PRODOM; PD000831; -; 1.
SEQUENCE 146 AA; 16182 MW; A7CB97BCB456E247 CRC64;
                                                                                                                                                                                                              FGF6.
                                                                                                                                                                                                                        01-MAY-1999 (TIEMBLIEL 1
01-MAY-1999 (TIEMBLIEL 1
01-JUN-2000 (TIEMBLIEL 1
FIBROBLAST GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q07659;
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
                                                                                                                                                                      Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Borja A.Z., Zeller R., Meijers C.;
"Expression of alternatively spliced bFGF first coding antisense mRNAs during chicken embryogenesis.";
Dev. Biol. 157:110-118(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; (Archosauria; Aves; Neognathae;
                                                                                                                                                                                                                                                                                     8d9xed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; M95706; AAA48616.1; -. EMBL; X56804; CAA40139.1; -. HSSP; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 52-85 FROM N.A. MEDLINE; 90382254.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE; 93246053.
                                                                                                "Identification of a fibroblast
                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                            Protacanthopteryg11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Development 109:387-393(1990).
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                                                                                                              E; 99096461.
P.Y.;
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                                                                                                                                                                                                                                                                                                                                                                                                          41.2%;
                                                                                                                                                            Salmoniformes; Salmonidae; Oncorhynchus
                                                                                                                                                                                                                     10, Created)
10, Last sequence update)
14, Last annotation update)
NR 6-RELATED PROTEIN.
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Pred. No. 3.5e
4; Mismatches
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; Galliformes; Phasianidae; Phasianinae;
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                                                                                     growth factor 6 s expression of F
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mesoderm induction
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Best Local S
Matches 20
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O35340;
O1-JAN-1998 (TrEMBLrel. 05, C
01-JAN-1998 (TrEMBLrel. 05, L
01-MAY-2000 (TrEMBLrel. 13, L
FIBROBLAST GROWTH FACTOR 12
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HSSP; P09038; LBFF
INTERPRO; IPR001064; -
INTERPRO; IPR002209; -
INTERPRO; IPR002348; -
PFAM; PF00167; FGF; 1.
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09YH31;
01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
PUTATIVE FIBROBLAST GROWTH FACTOR-4.
                                          Mus musculus (Mousė).
Mus musculus (Mousė).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00225; CRYSTALLIN_BETAGAMMA; UNKNOWN_1.
PROSITE; PS00247; HBGF_FGF; 1.
PRODOM; PD000831; -; 1.
SEQUENCE 196 AA; 22033 MW; AC4688CD989C6EAF CF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Notophthalmus viridescens (Eastern newt) (Triturus viridescens) Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostom. Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae; Notophthalmus.
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PROSITE; PS00247; HBGE_EGF; 1.
PRODOM; PD000831; -; 1.
SEQUENCE 206 AA; 23375 MW; BB883328F17EB6E4 CR
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SEQUENCE FROM N.A.
                                                                                                                                FGF12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Notophthalmus.
                                                                                                                                                   FIBROBLAST GROWTH FACTOR-RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Putative Newt Fibroblast Growth Factor-4."; submitted (OCT-1996) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                            77
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 YCKNG-GFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                                                                                                                                                                                                                                                                                                                                       YCNVGIGFHLQVLPDGRIHGMHSES-RYSLLEISPVERGVVCMFGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YCNAGIGFHLQVLPDGRINGVHNENQ-YSLIEISTVERGVVSLYGV 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YCKNG-GFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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; Pred. No. 0.00
9; Mismatches
                                                                                                                                                                                                   Last sequence update)
Last annotation update)
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DT G1-MAY
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                                                                                                                                                                                                                                                                                                          J. Mol. Evol. 0:0-0(0).

EMBL; Z70276; CAA94240.1; -.

HSSP; P03968; LAR9.

INTERPO, IPR002209; -.

PFAM; PF00167; FGF; 1.

PROSITE; PS00247; HBGF_FGF; 1.

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NON_TER 127 127

SEQUENCE 127 AA; 14478 MW; D
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Q99517;
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Mech. Dev. 64:31-39(1997).

EMBL; AF020739; AAB71608.1; -.

HSSP; P09038; 1BFF.

MGD; MGI:109183; Fgf12.

INTERPRO; IPR002209; -.

FFAM; PF00167; FGF; 1.

NON_TER 78
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SEQUENCE 78 AA; 8646 MW; AE681A7E18E80132 CRC64;
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
FIBROBLAST GROWTH FACTOR 12 (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Birnbaum D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Coulier F., Pontarotti P., Roubin R., Hartung H., Goldfarb M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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Hartung H., Feldman B., Lovec H., Coulier F., Birnbaum D.,
Goldfarb M.;
6 GFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45 |:||:|||| :|| :|| | | ||:||| || 20 GYFLQMHPDGTIDGTKDENSDYTLFNLIPVGLRVVAIQGV 59
                                                                                                                                                                                                                                                                                                  127 127
127 AA; 14478 MW; D97DCCA67A3F2F2C CRC64;
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re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
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RESULT A32484

#text_change 15-Jun-1996

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C;Accession: 146711
R;Winkles, J.A.; Friesel, R.; Alberts, G.F.; Janat, M.F.; Liau, Rm. J. Pathol. 143, 518-527, 1993
A;Title: Elevated expression of basic fibroblast growth factor A;Reference number: 146711; MUID:93343209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R.Sommer, A.; Moscatelli, D.; Rifkin, D.B.
Blochem. Blophys. Res. Commun. 160, 1267-1274, 1989
A;Title: An amino-terminally extended and post-translationally modified form of a 251
A;Reference number: A32484; MUID:89273588
A;Accession: A32484
A;Status: preliminary; nucleic acid sequence not shown; not compared with conceptual A;Molecule type: mRNA
A;Residues: 1-125 <SOM>
C;Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                basic fibroblast growth factor precursor, 25K - guinea pig (fragments) c;Species: Cavia porcellus (guinea pig) C;Date: 20-Oct-1989 #sequence_revision 20-Oct-1989 #text_change 15-Jun C;Accession: A32484
                                                                                                                                                   A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-137 <WINN
A;Cross-references: GB:L12034; NID:g165014; PIDN:AAA31248.1; PID:g165015
C;Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                           fibroblast growth factor - rabbit (fragment)
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 14-Feb-1997 #sequence_revision 14-Feb-1997
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1 SNNYNTYRSRXYSSWYVALKR 21
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21; Conservative
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100 SNNYNTYRSRKYSSWYVALKR 120

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A; Molecule type: mRNA
A; Residues: 35-154 <ELH>
A; Residues: 35-154 <ELH-
A; Cross-references: EMBL: X61697;
C; Superfamily: fibroblast growth
C; Keywords: growth factor
٠٥,
                                                                                                                                                                               F;10-154/Product: basic fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: EMBL:X07285; NID:g56203; PR;El-Husseini, A.E.D.; Paterson, J.A.; Myal, Y Biochim. Biophys. Acta 1131, 314-316, 1992 A;Title: PCR detection of the rat brain basic
                                                                                                                                                                                                                                                                                                                                                                                      A:Reference number: S24309; MUID:92329546
A:Accession: S24309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Kurokawa, T.; Seno, M.; Igarashi, K.
Nucleic Acids Res. 16, 5201, 1988
A;Title: Nucleotide sequence of rat basic
A;Reference number: S00876; MUID:88262516
A;Accession: S00876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-154 < KUR>
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C;Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 16-Jul-1999
C;Accession: A31674; S00876; S24309
R;Shimasaki, S.; Emoto, N.; Koba, A.; Mercado, M.; Shibata, F.; Cooksey, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Accession: S00185
A; Molecule type: protein
A; Mesidues: 1-146 <SIM>
C; Superfamily: fibroblast growth factor
C; Keywords: growth factor; heparin binding; mitogen
F; 18-22/Region: heparin binding #status predicted
F; 107-110/Region: heparin binding #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N;Alternate names: prostatropin
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: S00185
R;Simpson, R.J.; Moritz, R.L.; Lloyd, C.J.; Fabri, L.J.; Nice, E.C.; Rubira, M.R.;
FEBS Lett. 224, 128-132, 1987
A;Title: Primary structure of ovine pituitary basic fibroblast growth factor.
A;Reference number: S00185; MUID:88055577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:M22427; NID:9204285; PIDN:AAA41210.1; PID:9204286
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A; Residues: 1-154 <SHI>
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A;Title: Complementary DNA cloning and sequencing of rat ovarian basic fibroblast growth R;Reference number: A31674; MUID:89061721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Accession: A31674
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Best Local
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1 SNNYNTYRSRKYSSWYVALKR 21
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Pred. No. 8.1e-10;
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A; Status, File MRNN, A; Shalus, File MRNN, A; Molecule type: mRNN, A; Molecul
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Hebert, J.M.; Basilico, C.;
Dev. Biol. 138, 454-463, 1990
A;Title: Isolation of cDNAs er
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              basic fibroblast growth factor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Accession:
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108 SNNYNTYRSRKYSSWYVALKR 128
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A;Molecule type: protein
A;Residues: 16-35 <BER>
R;Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Guillemin,
Mol. Cell. Endocrinol. 49, 189-194, 1987
A;Title: Isolation and partial characterization of bas
A;Reference number: &61551; MUID:87162856 A;Cross-references: GB:M13440; NID:g163049; PIDN:AAA30518.1; PID:g163050
A;Experimental source; pituitary gland
R;Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
Cold Spring Harb. Symp. Quant. Blol. 51, 657-668, 1986
A;Title: Human basic fibroblast growth factor: nucleotide sequence, genomic organizat
A; Reference number: A90924; MUID:87217066
A;Accession: A32878;
A;Molecule type: mRNA
A;Residues: 3-157 <AB2>
R;Milner, P.G.; Li, Y.S.; Hoffman, R.M.; Kodner, C.M.; Siegel, N.R.; Deuel, T.F.
Blochem. Blophys. Res. Commun. 165, 1096-1103, 1989
A;Title: A novel 17 kD heparin-binding growth factor (HBGF-8) in bovine uterus: purif
A;Recession. A33784; MUID:90121211 Mol. Cell. Endocrinc A; Title: Isolation, A; Reference number: A61550; A; Accession: A61550 A; Note: demonstration of a possible alternative initiator or A; Molecule type: protein A; Residues: 1-14 < MIL> C;Species: Bos primigenius taurus (cattle)
C;Date: 13-Aug-1986 #sequence_revision 02-Jun-1995 #text_change 24-Nov-1999
C;Accession: A24663; A32878; A33784; A61550; A61551; A60310; A61094; A01386; A60316;
R;Abraham, J.A.; Mergia, A.; Whang, J.L.; Tumolo, A.; Friedman, J.; Hjerrild, K.A.; G
Science 233, 545-548, 1986
A;Title: Nucleotide sequence of a bovine clone encoding the angiogenic protein, basic A;Reference number: A94290; MUID:86261806 A; Molecule type: mRNA A; Residues: 3-157 < ABR> A; Reference number: A94290; A; Accession: A24663 basic fibroblast growth factor precursor - N; Alternate names: bFGF; kidney-derived gro ;Bertolini, Accession: A33784 1, J.; Hearn, M.T.W.
Endocrinol. 51, 187-199, 1987
Solation, characterisation and erisation and MUID:87247652 tissue localisation growth factor; prostatropin bovine (fragment) of basic fibroblast growth of splice an factor

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A;Reference number: A60310; MUID:8713165
A;Recession: A60310
A;Rolecule type: protein
A;Residues: 23-35, 'X', 37-42 (JEN)
A;Reference number: A2619; MJID:86295737
A;Rolecule type: number: A24819; MJID:86295737
A;Rolecule type: number: A24819; MJID:86295737
A;Rolecule type: protein
A;Reference number: A61944; MJID:8681530
A;Ritle: Isolation of fibroblast growth factor from bovine adrenal gland: physicochemica
A;Reference number: A61944; MJID:86081530
A;Reference number: A61945; MJID:86081530
A;Reference number: A61946; MJID:86081530
A;Reference number: A61946; MJID:86081531
A;Reference number: A61947; MJID:86081531
A;Reference number: A61948; MJID:86081530
A;Reference number: A61948; MJID:86081531
A;Reference number: A61948; MJID:86081531
A;Reference number: A61948; MJID:860816731
A;Reference number: A61948; MJID:860816731
A;Reference number: A61948; MJID:860816731
A;Reference number: A61948; MJID:860816731
A;Reference number: A61948; MJID:86095426
A;Reference number: A61949; MJID:86095426
A;Reference number: A61949; MJID:86095426
A;Reference number: A61949; MJID:86095426
A;Reference number: A61949; 
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A; Molecule type: protein
A; Residues: 12-26 < MoH>
C; Comment: The acidic and basic fibroblast growth factors are the major endothelial-cell
ell types in vitro (although bFGF is 30-100 times more potent than aFGF in stimulating to C; Comment: This protein binds heparin more strongly than does aFGF.
C; Superfamily: fibroblast growth factor
C; Reywords: alternative splicing; angiogenesis; blocked amino end; growth factor, heparif: 1-157/Product: basic fibroblast growth factor, uterine form #status predicted <MATI>F; 4-157/Product: basic fibroblast growth factor, pituitary alpha form #status experiment
F; 12-157/Product: basic fibroblast growth factor, pituitary alpha form #status predicted
F; 23-157/Product: basic fibroblast growth factor, hepartic form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental < MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
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F; 27-157/Product: basic fibroblast growth factor, renal form #status ex
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A:Residues: 27-35, 'x',37-43 <BAI>
A:Residues: 27-35, 'x',37-43 <BAI>
A:Residues: 27-35, 'x',37-43 <BAI>
A:Resperimental source: kidney
R:Bohlen, P.; Baird, A.; Esch, F.; Ling, N.; Gospodarowicz, D.
Proc. Natl. Acad. Sci. U.S.A. 81, 5364-5368, 1984
A:Title: Isolation and partial molecular characterization of pituitary fibroblast A:Reference number: A22054; MUID:84298139
A:Accession: A22054
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A;Mclecule type: protein
A;Mclecule type: protein
A;Mcsidues: 27-35,'X',37-41 <UE3>
A;Experimental source: testes
A;Experimental source: to be identical to the renal form
A;Note: this form appears to be identical to the renal form
B;Ueno, N.; Baird, S.; Esch, F.; Shimasaki, S.; Ling, N.; Guillemin,
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A; Title: Purification and partial characterization of
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Pred. No. 8.7e-10;
Mismatches 0;
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basic fibroblast growth factor - short-tailed opossum (Monodelphis of C;Species: Monodelphis domestica
C;Species: Monodelphis domestica
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 12-7
C;Accession: S31622
R;Kusewitt, D.F; Sabourin, C.L.K; Budge, C.L.; Ley, R.D.
submitted to the EMBL Data Library, September 1992
A;Description: Characterization of cDNA encoding basic fibroblast g1
A;Reference number: 331622
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-164 <KUJGS
A;Cross-references: EMBL: 215154
C;Superfamily: fibroblast growth factor
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A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-155 (KIM>
A; Cross references: 'GB: M18067; NID:g214177; PI
R; Kimelman, D.; Kirschner, M.
Cell 51, 869-877, 1987
A; Title: Synergistic induction of mesoderm by
A; Reference number: A29618; MUID:88052890
A; Accession: A29618
A; Molecule type: mRNA
A; Residues: 95-110,112-155 (KI2>
C; Superfamily: fibroblast growth factor
C; Keywords: growth factor
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basic fibroblast growth factor precursor, 22.5K form - human N;Alternate names: bgGF; fibroblast growth factor 2; prostatic growth factor; N;Contains: basic fibroblast growth factor, 18K form C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 31-Jul-1989 * sequence_revision 31-Dec-1993 * text_change 16-Jul-1999 C;Accession: A32398; A61537; A26642; B32878; S00297; A54316; B54316; A33624; R;Prate, H,; Kaghad, M; Prates, A.C.; Klagsbrun, M; Lelias, J.M.; Liauzun, E Proc. Natl. Acad. Sci. U.S.A. 86, 1836-1840, 1989
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A;Reference number: A33624; MUID:90078343
A;Accession: A33624
A;Status; preliminary
A;Molecule type: protein
A;Residues: 57-210 <FEI>
R;Story, M.T.; Esch, F.; Shimasaki, S.; Sasse, J.; Jacobs, S.C.; Laws, Biochem. Biophys. Res. Commun. 142, 702-709, 1987
A;Title: Amino-terminal sequence of a large form of basic fibroblast
A;Reference number: A25824; MUID:87156686
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                 A; Reference
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A:Residues: 'XX',86-88,'X',90-91,'X',93-95 <SH3>
A:Experimental source: C-Li21 hepatocellular carcinoma cell line
A:Note: sequence extracted from NCBI backbone (NCBIP:71595)
A:Accession: B54316
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A; Molecule type: mkwa
A; Residues: 56-210 < ABR>
A; Residues: the authors translated the codon G
A; Note: the authors translated the codon G
A; Note: the authors translated the codon G
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A;Title: Characterization of high-molecular-mass forms of basic fibroblast growth
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A;Title: Human basic fibroblast growth factor: nucleotide A;Reference number: S00297; MUID:87053817
A;Status: not compared with conceptual translation
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A;Cross-references: GB:M27968; NID:g182562; PIDN:AAA52448.1; PID:g182563
R;Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
Cold Spring Harb. Symp. Quant. Biol. 51, 657-668, 1996
A;Title: Human basic fibroblast growth factor: nucleotide sequence, geno
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FEBS Lett. 213, 189-194, 1987
A;Title: Cloning and expression of cDNA encoding human
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A; Residues: 1-155 <AB2>
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                         nan brain-derived acidic and b
number: A90122; MUID:86186784
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  basic fibroblast growth factor - c
C;Species: Gallus gallus (chicken)
C;Date: 01-Dec-1993 #sequence_revi
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A; Residues: 39-53; 65-88 <PAT>
A; Note: recombinant gene expr
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A; Residues: 95-182 < KES>
A; Cross-references: (GB:S/
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A; Residues: 54-210 <SOM>
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A; Molecule type: protein
A; Residues: 65-102, '\x', 1
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Best Local
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20; Conser
#sequence_revision 18-Nov-1994
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C:Keywords: alternative initiators; angiogenesis; growth factor; heparin binding; F;1-210/Product: basic fibroblast growth factor, 22.5K form *status predicted <MAX F;65-210/Product: basic fibroblast growth factor, 18K form *status predicted <MATS F;82-86/Region: heparin binding *status predicted F;171-174/Region: heparin binding *status predicted F;171-174/Region: heparin binding *status predicted
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R;Gautschi, P.; Frater-Schroder, M.; Bohlen,
FEBS Lett. 204, 203-207, 1986
A;Title: Partial molecular characterization c
A;Reference number: 491364; MUID:86275260
A;Accession: B24301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Experimental source: granulosa ceils R; Patry, V.; Bugler, B.; Amalric, F.; Prome FEBS Lett. 349, 23-28, 1994
A; Title: Purification and characterization A; Reference number: 346253; MUID:94320639
A; Accession: S46253
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C;Superfamily: fibroblast growth factor
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A;Molecule type: protein
A;Residues: 54-71 <PAN>
R;Watson, R.; Anthony, F.; Pickett, M.; Lambden, P.; Masson, G.M.; Thomas,
Biochem. Biophys. Res. Commun. 187, 1227-1231, 1992
A;Title: Reverse transcription with nested polymerase chain reaction shows
                                                                                                                                                                                                                                                                                                                                                                    A;Gene: GDB:FGF2; FGFB
A;Cross-references:_GDB:119910; OMIM:134920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Reference number: T52267; MUID:93038590
A;Accession: I52267;
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: EMBL:M17599; NID:g183086; PIDN:AAA52534.1; PID:g183087 R;PantOliano, M.W.; HOrlick, R.A.; Springer, B.A.; Van Dyk, D.E.; Tobery, Biochemistry 33, 10229-10248, 1994
A;Title: Multivalent ligand-receptor binding interactions in the fibroblas A;Reference number: A55784; MUID:94347757
164 SNNYNTYRSRKYTSWYVALKR
                                       1 SNNYNTYRSRKYSSWYVALKR 21
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chicken

#text_change

16-Jul-1999

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A; Decles type: DNA A; Rolecule type: DNA A; Rolecule type: DNA A; Residues: 95-128 <MIT> A; Residues: 95-128 <MIT> A; Cross-references: EMBL: X56804; NID: g62855; PIDN: CAA40139.1; PID: g62856 A; Cross-references: EMBL: X56804; NID: g62855; PIDN: CAA40139.1; PID: g62856
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R:Mitrani, E.; Gruenbaum, Y.; Shohat, H.; Ziv, T.
Development 109, 387-393, 1990
A:Title: Fibroblast growth factor during mesoderm induction in the early chick embryo.
A:Reference number: $23636; MUID:90382254
A:Accession: $23636
                                                                                                                                                     embryonic fibroblast growth factor II - African clawed frog C;Species: Xenopus laevis (African clawed frog) C;Date: 06-Sep-1996 #sequence_revision 13-Mar-1997 #text_che C;Accession: S54407 R;Isaacs, H.V.; Tannahill, D.; Slack, J.M.W. Development 114, 711-720, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       embryonic fibroblast growth factor - African clawed frog C;Species: Xenopus laevis (African clawed frog) C;Date: 19-Feb-1994 #sequence_revision 10-Nov-1995 #text_change 16-Jul-1999 C;Accession: S23595 R;Isaacs, H.V.; Tannahill, D.; Slack, J.M.W. Development 114, 711-720, 1992
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Dev. Biol. 157, 110-118, 1
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R; Borja, A.Z.; Meijers, C.;
                                                                                     A; Title: Expression of a novel FG A; Reference number: $23595; MUID: A; Accession: $54407
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A; Residues: 1-187 <ISA>
A; Cross-references: EMBL: X62593;
C; Superfamily: fibroblast growth
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A;Accession: A48834
                          A; Molecule type: mRNA
A; Residues: 1-192 <ISA>
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A; Residues: 1-189 <BOR>
A;Cross-references: EMBL:X62594; NID:g840919; PIDN:CAA44480.1; PID:g840920
                                                                  A; Status: preliminary
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RESULT

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acidic fibroblast growth factor - pig (fragment) (;Species: Sus scrofa domestica (domestic pig) (;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_changer; Accession: JH0476; S20072 (;Accession: JH0476; S20072 R;Schmidt, M.; Sharma, H.S.; Schott, R.J.; Schaper, W. Biochem. Biophys. Res. Commun. 180, 853-859, 1991 A;Title: Amplification and sequencing of mRNA encoding acidic A;Reference number: JH0476; MUID:92062117
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                                                                                                                                                                                                                                                                                       R;Hall, J.A.; Harris, M.A.; Malark, M.; Mansson, P.E.; Zhou, J. Cell. Biochem. 43; 17-26, 1990
A;Title: Characterization of the hamster DDT-1 cell aFGF/HGBE A;Reference number: A60721; MUID:90270291
                                                                                                                                                                                                                                                                                                                                                                                   N;Alternate names: heparin-binding growth factor 1
C;Species: Mesocricetus auratus (golden hamster)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999
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A;Note: the hydrophobic core residues are packed around the internal symmetry C;Comment: This protein belongs to the fibroblast growth factor family. C;Superfamily: fibroblast growth factor C;Keywords: growth factor; heparin binding F;22-28/Region: nuclear location signal F;133/Binding site: heparin (Lys) #status predicted
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A; Residues: 1-155 <HAL>
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A; Residues: 1-152 <SCH>
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A;Accession: JH0476
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                                  2 NNYNTYRSRKYS--SWYVALKR 21
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Pred. No. 0
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Pred. No. 0.022;
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solidic fibroblast growth factor 1 - rat acidic fibroblast growth factor 1
N;Alternate names: heparin-binding growth factor 1
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change 16-Jul-1999
C;Accession: Sol4147
R;Goodrich, S.P.; Yan, G.C.; Bahrenburg, K.; Mansson, P.E.
Nucleic Acids Res. 17, 2867, 1989
A;Title: The nucleotide sequence of rat heparin binding growth factor 1 (HBGF-1).
A;Reference number: Sol447; MUID:89240051
A;Accession: Sol4147
A;Accession: Sol4147
A;Accession: Sol4147
A;Rolecule type: mRNA
A;Residues: 1-155 <GOO>
A;Cross-references: EMBL:X14232; NID:956351; PIDN:CAA32448.1; PID:g56352
C;Superfamily: fibroblast growth factor
C;Keywords: growth factor; heparin binding
Search completed: November 9, 2000, 15:31:53 Job time: 174 sec
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Winkles J.A., Friesel R., Alberts G.F., Janat M.F., Liau G.;
"Elevated expression of basic fibroblast growth factor in an immortalized rabbit smooth muscle cell line.";
Am. J. Patbol. 143:518-527(1993).
-!- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
-!- SUBUNIT: MONOMER.
-!- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES

AGENTS

STRAIN-NEW ZEALANI MEDLINE; 93343209

ZEALAND WHITE; TISSUE-SMOOTH MUSCLE;

SEQUENCE FROM N.A.

Oryctolagus cuniculus (Rabbit). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.

GEEDDD	RESULT FGF2_R ID F														
01-FF 01-FF 01-FF HEPAF FACTO	RESULT 1 FGF2_RABIT ID FGF2_RA AC P48799:		45	44	43	42	41	40	39	38	37	36	35	34	
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                                                                                                                                                                                                                                                                          PROSITE; PS00247; HBGF_FGF; 1.
Growth factor; Mitogen; Vascularization; Heparin-binding.
B 22 HEPARIN (POTENTIAL).
BINDING 107 110 HEPARIN (POTENTIAL).
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SEQUENCE 137 AA; 15418 MW; OD9EE457B88E8C51 CRC64;
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SNNYNTYRSRKYSSWYVALKR 120

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"Isolation of cDNAs encoding four mouse FGF family members and
characterization of their expression patterns during embryogenes
Dev. Biol. 138:454-463(1990).

-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC
IN VIVO AND ARE POTENT MITGGENS FOR A VARIETY OF CELL TYPES
VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
CONCENTRATION OF THESE 2 GROWTH FACTORS.

-i- SUBUNIT: MONOMER.

-i- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                            PRINTS; PRO0262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
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INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
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PIR; C37360; C37360.
HSSP; P09038; 1BFF.
MGD; MGI:95516; FGF2.
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01-FEB-1996 (Rel. 33, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST GROWTH FACTOR) (BFGF) (PROSTATROPIN).
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HEPARIN (POTENTIAL).
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                                                                                                                                                                                               Length 154;
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; Murinae; Mus
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EMBL; M22427; AAA41210.1; -.
EMBL; W07285; CAA30265.1; -.
EMBL; U78079; AAC532251; -.
EMBL; X61697; CAA43863.1; -.
EMBL; X61697; CAA43863.1; -.
PIR; 831674; A31674.
HSSP; P09038; 1EFF.
                           Growth
                                                                      INTERPRO; IPRO02348; --
PFAM; PFO0167; FGF; 1.
PRINTS; PRO0262; III1HBGF.
PRINTS; PR00263; HBGFFGF;
PROSITE; PS00247; HBGF_FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                      use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a license agreement (See http://www.isbor send an email to license@isb-sib.ch).
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                                                                                                                                                                                           INTERPRO; IPR002209; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Cloning of the rat fibroblast growth facto; its response to mitogenic stimuli in glioma J. Neurochem. 68:898-908(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-SPRAGUE-DAWLEY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-SPRAGUE-DAWLEY;
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HEPARIN-BINDING GROWIH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST GROWTH FACTOR) (BFGF) (PROSTATROPIN).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
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TISSUE SPECIFICITY:
MISCELLANEOUS: THIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A containing a unique 3' untranslated region.";

him. Biophys. Acta 1131:314-316(1992).

FUNCTION: THE HEPARIN-BINDING GROWN ARTORS ARE ANGIOGENIC
IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES

VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         usseini A.E.D., Paterson J.A., Myal Y., Shiu R.P.C., detection of the rat brain basic fibroblast growth
                                        factor; Mitogen; Vascularization; Heparin-binding.
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hi_K.B.S., Jin Y.,
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Rodentia;
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TISSUE=BRAIN;
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plast growth factor-2
HEPARIN-BINDING GROWTH FACTOR
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                                                                                                                                                                                                                                                                                                                                                                                                                            moved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
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; Murinae; Rat
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                                                                                                                                                                                                                 growth factor.";
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MEDLINE; 86016731.

MEDLINE; 86016731.

MESCH F., Baird A., Ling N., Ueno N., Hill F., Denoroy L., Klepper R., Gospodarowicz D., Boehlen P., Guillemin R.;

"Primary structure of bovine pituitary basic fibroblast growth factor "Primary structure of bovine pituitary basic fibroblast growth factor (FGF) and comparison with the amino-terminal sequence of bovine brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Human basic fibroblast growth factor: nucleotide sequence, organization, and expression in mammalian cells."; cold Spring Harb. Symp. Quant. Biol. 51:657-668(1986).
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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01-FEB-1996 (Rel. 33, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST GROWTH FACTOR) (BFGF) (PROSTATROPIN) [CONTAINS: KIDNEY-DERIVED GROWTH
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23-OCT-1986
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                                                                                MEDLINE; 86095426. Baird A., Esch F., Boehlen P., Ling N., "Isolation and partial characterization factor from the bovine kidney: homology factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FGF2_BOVIN
                                                                                                                                                                                                                                                                                                                                                          acidic
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"Human basic fibroblast gi
               SEQUENCE OF 21-40
TISSUE-KIDNEY;
                                                                                                                                                                                   SEQUENCE OF 25-41.
                                                                 Regul. Pept. 12:201-213(1985)
                                                                                                                                                                                                                                                                                                         SEQUENCE OF 1-9
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terminal extended form of basic
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                                                                                             Gospodarowicz D.; of an endothelial cell growth with basic fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 TURN
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
PROSITE; Mitogen; Vaso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
INTERPRO; IPRO02348; -.
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PIR; A24663; GKBOB.
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PROPEP
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31-OCT-93.
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                                                                                                                                                                            use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to licensearch
                                                          PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
                                                                                                                                  EMBL; L36136; AAA31519.1; PIR; S00185; S00185. HSSP; P09038; 1BFF.
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STRAND
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutel
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora;
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01-FEB-1996 (Rel.
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MEDLINE; 88055577.
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SUBUNIT: MONOMER.
MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN MISCELLANEOUS:
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                                                                                                                                                                                                                         European Bioinformatics Institute.
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                                                   factor;
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                                              Vascularization; Heparin-binding.
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Pred. No. 1.5e-1
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    (POTENTIAL)
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Matches
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SEQUENCE OF 10-35.
MEDLINE; 86275260.
Gautschi P., Frater-Schroeder M., Boehlen P.;
"Partial molecular characterization of endothelial cell mitogens human brain: acidic and basic fibroblast growth factors.";
FEBS Lett. 204:203-207(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FGF2_HUMAN
P09038;
01-NOV-1988
                                                                                                                                                                                    "Cloning and growth factor
                                                                             "High molecular mass forms of basic initiated by alternative CUG codons. Proc. Natl. Acad. Sci. U.S.A. 86:18:
                                                                                                              Caput
                                                                                                                         Liauzun
                                                                                                                                   Prats H.,
                                                                                                                                                        SEQUENCE
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                                                                                                                                                                                                          Kurokawa
                                                                                                                                                                                                                    MEDLINE;
                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                   Biochem.
                                                                                                                                                                                                                                                                                Sommer A.,
Rifkin D.B
                                                                                                                                                                                                                                                                                                                             Abraham J.A., Whang J.L., Tumolo A., Mergia A., Fiddes J.C. "Human basic fibroblast growth factor: nucleotide sequence, organization, and expression in mammallan cells."; Cold Spring Harb. Symp. Quant. Biol. 51:657-668(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                    Abraham J.A., Whang J.L., Tumolo A., Mergia A., Gospodarowicz D., Fiddes J.C.; "Human basic fibroblast growth factor: nucleotic renomic organization":
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01-NOV-1988 (Rej. 09, Last sequence update)
01-NOV-1997 (Rej. 35, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST GROWTH FACTOR) (BFGF) (PROSTATROPIN).
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                                                                                                                                                                                                                                                                                                                                                                                                        genomic organization.";
EMBO J. 5:2523-2528(1986).
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Fukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                             SEQUENCE FROM
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                                                                                                                                                                                                                                                                     form of human basic
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                                                                                                                                                                                                                                                             terminus.";
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E; 89184522.
Kaghad M., Prat
                                                                                                                                                                                             T., Sasada R., and expression
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116
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, Tauber J.P., Amalric
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HEPARIN
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Pred. No. 1.5e-10;
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EPARIN (POTENTIAL).
B5F2364BA610606D CRC64;
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MEDLINE; 91195367.
Eriksson A.E., Couse
"Three-dimensional effector.";
   the Europuse by modified
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"Three-dimensional structure of human
a structural homolog of interleukin 1
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SEQUENCE
MEDLINE;
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MEDLINE; 87156686.
Story M.T., Esch E
                                                                                                                                                                                                                                                                                                                                                                                        Biochemistry 35:13552-13561(1996).
-i- FUNCTION: THE HEDARIN-BUNDING:
IN YIVO AND ARE POTENT MITOGENER VITRO. THERE ARE DIFFERENCES I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE; 92121151.
Ago H., Kitagawa Y., I
"Crystal structure of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              spectroscopy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE; 97040521.
Moy F.J., Seddon A.P., Boomer F.J., Seddon B.P., Boomer F.J., Bo
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Zhang J., Cousens L.S.,
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s SWISS-PROT entry is copyright. It is produced through a ween the Swiss Institute of Bioinformatics and the EMBI European Bioinformatics Institute. There are no restrict by non-profit institutions as long as its content is by not this statement is not removed. Usage by and f
                                                                                                                                                                                                                                                                           FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIGGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
SUBUNIT: MONOMER.
MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN
                                                                                                                                                                                                              AFGF.
SIMILARITY: BELONGS
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., Komiya H., Chirino
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EMBL; X044431; CAA28029.1
EMBL; X044432; CAA28029.1
EMBL; X07968; AAA52448.1
EMBL; X04513; AAA52533.1
PIR; A25624; A25824
PIR; B24301; B24243.
PIR; B24201; B24301.
PIR; B32878; B32878.
PIB; B24678; B32878.
PIB; B2667; 15-APR-92.
PDB; 1FGA; 15-UL-93.
PDB; 1FGA; 15-UL-93.
PDB; 1FGA; 15-UL-93.
PDB; 1BFC; 03-APR-96.
PDB; 1BFC; 03-APR-96.
PDB; 1BFC; 31-JAN-94.
PDB; 1BFA; 30-APR-94.
PDB; 1BFA; 30-APR-94.
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CELL ATTACHMENT SITE (PC
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
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01-JAN-1990 (Rel. 13, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
HEPARIN BIDDING GEOWTH FACTOR 2 PRECURSOR (HBGGROWTH FACTOR) (BFGF).
FGF2 OR FGF-2.
Xenopus laevis (African clawed frog).
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"The presence of fibroblast gr
as a natural mesoderm inducer.
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Kimelman D., Kirschner M.;

"Synergistic induction of 1
identification of an mRNA
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea;
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                                                                                                                                                                                                                                                                                                     factor; Mitogen; Vascularization; Heparin-binding. 1
                                                                                   Similarity 95. 20; Conservative
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95.2%;
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O36735C8063142FD
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DE HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HB)
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BINDING 117 120 HEPARIN (POTE)
                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; 215154; CAA78854.1; P
HSSS; PO9038; IRFE
INTERPRO; IPRO02209; -
INTERPRO; IPRO02348; -
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE: 34296558.

Kusewitt D.F., Sabourin C.L.K., Sherburn T.E., Ley R.D.;

"Characterization of cDNA encoding basic fibroblast growth facto
the marsupial Monodelphis domestica.";

DNA Cell Biol. 13:540-554(1994)

-I- FUNCTION: THE PEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC
IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES
VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    p48798;
01-FEB-1996 (Rei. 33, Created)
01-FEB-1996 (Rei. 33, Last sequence update)
01-NOV-1997 (Rei. 35, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Monodelphis domestica (Short-tailed grey opossum).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Metatheria; Didelphimorphia; Didelphidae;
                                                                                                                                                                                                                               110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GROWTH FACTOR)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FGF2_MONDO
                                                                                                                                                                                                                                                         1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY? BELONGS TO THE HEPARIN-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBUNIT: MONOMER
                                                                                                                                                                                                                          SNNYNTYRSRKYSNWYVALKR 130
                                                                                                                                                                                                                                                                                       l Similarity 95.;
20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BFGF)
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                                                                                                                                                                                                                                                                                                       97.4%;
95.2%;
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                                                                                                                                                                                                                                                                                       Score 112; DB Pred. No. 4.2e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                              HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
7E655FCC49BF1209 C
                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY.
HEPARIN-BINDING GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                             PRECURSOR (HBGF-2) (BASIC FIBROBLAST
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                                                                               update)
                                                                                                                                                                                                                                                                                                      DB 1;
.2e-10;
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Monodelphis.
                                                                                                                                                                                                                                                                                                                      156;
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RESULT 10
FGFA_XENLA
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Best Local
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Gallus.
[1]
                                                                                                                                                                                                                                                                     01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
01-FEB-1996 (Rel. 33, Last annotation update)
FIBROBLAST GROWTH FACTOR-4-I PRECURSOR (FGF-4-I) (HBGF-4-I) (EMBRYONIC FIBROBLAST GROWTH-FACTOR I) (XEFGF-I).
Xenopus laevis (African claved frog).
Xenopus laevis (African claved frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMMI outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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MEDLINE: 93246053.

Borja A.Z., Zeller R., Meijers C.;

Merja A.Z., Zeller R., Meijers C., Meijers C.;

Merja A.Z., Zeller R., Meijers C.;

Merja A.Z., Zeller R., Meijers C.;

Merja A.Z., Ze
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BINDING
BINDING
SEQUENCE
Isaacs H.V., Tannahill D., SI 
"Expression of a novel FGF in 
inducing factor for mesoderm 
specification.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gallus gallus (Chicken)
Eukaryota: Metazoa; Cho
                                                                                                    SEQUENCE FROM N.A. MEDLINE; 92315916. ISaacs H.V., Tanna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P48805;
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS
                                                                                                                                                                                                                                                          Xenopodinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FGFA_XENLA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    112
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SUBUNIT: MONOMER.

MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S; PR00262; IL1HBGF.
S; PR00263; HBGFFGF; 1
TE; PS00247; HBGF_FGF; 1
h factor; Mitogen; Vascu
p 1
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119
158
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34
122
122
17374 MW;
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95.2%;
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                                                                      slack J.M.W.;
in the Xenopus embryo. A new candidate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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HEPARIN (POTENTIAL).
; 7B69B684C17F1816 CRC64;
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Pred. No. (
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HEPARIN-BINDING GROWTH FACTOR
                                         formation
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                                         anteroposterior
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RESULT 11

FGFB_XENLA STANDARD; PRT; 192 AA.

ID FGFB_XENLA STANDARD; PRT; 192 AA.

AC P48806;
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
FIBROBLAST GROWTH FACTOR II) (XEFGF-II).

KEMBYONIC FIHADALAST GROWTH FACTOR II) (XEFGF-II).

Sendpals Satrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
CR Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
CR Xenopodinae; Xenopus.

RN [1]
CR Xenopodinae; Xenopus.

RN [2]
CR Xe
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Best Local S
Matches 12
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SEQUENCE
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-!- FUNCTION: GOOD CANDIDATE FOR AN INDUCING FACTOR WITH POSSIBLE ROLES BOTH IN MESODERM INDUCTION AT THE BLASTULA STAGE AND IN THE FORMATION OF THE ANTEROPOSTERIOR AXIS AT THE GASTRULA STAGE.

-!- SUBCELLULAR LOCATION: SECRETED (PROBABLE).

-!- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                     SPECIFICATION.";
Development 114;711-720(1992).

PEVELOPMENT 114;711-720(1992).

IN FUNCTION: GOOD CANDIDATE FOR AN INDUCING FACTOR WITH POSSIBLE FUNCTION: GOOD CANDIDATE FOR AN THE BLASTULA STAGE AND IN THE FORMATION OF THE ANTEROPOSTERIOR AXIS AT THE GASTRULA STAGE.

-I- SUBCELLULAR LOCATION: SECRETED (PROBABLE).

-I- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIGNAL
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HSSP; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERPRO; IPR002209; -.
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12; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       187 AA;
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FIBROBLAST GROWTH FACTOR-4-I
FAAE63D65E82AD1BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 69; DB 1;
Pred. No. 0.0014;
1; Mismatches
                                                                                                                            There are no restrictions ong as its content is in
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                                                                                                                                                                                                                                                                                                                     REDLINE; 89231704.

RA MEDLINE; 89231704.

RA Quinkler W., Maasberg M., Bernotat-Danielowski S., Luethe N.,

RA Quinkler W., Maasberg M.;

RA Quinkler W., Maasberg M.;

RA Sharma H.S., Schaper W.;

RT "Isolation of heparin-binding growth factors from bovine, porcine and

RT canine hearts.";

RL EUR. J. Biochem. 181:67-73(1989).

CC -!- FUNCTION: THE HEPARIN BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS

CC IN VIVO AND ARE POTENT MITGGENS FOR A VARIETY OF CELL TYPES IN

CC VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND

CC CONCENTRATION OF THESE 2 GROWTH FACTORS.

CC -!- SUBGNIT: MONOMER.

CC -!- SUBGNIT: MONOMER.

CC -I- SUBGNIT: BELLONGS TO THE HEPARIN, ALTHOUGH LESS STRONGLY

THAN DOES BFGF.
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Best Local S
Matches 12
                                                                                             entities
or send a
                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
     EMBL; X60317; CAA42869.1;
PIR; S03954; S03954.
HSSP; P05230; 2AXM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schmidt M., Sharma H.S., Schott R.J., Schaper W., 
"Amplification and sequencing of mRNA encoding ac 
growth factor (aFG) from porcine heart.", 
Biochem. Biophys. Res. Commun. 180:853-859(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FGF1 OR FGF-1.
Sus scrofa (Pig).
Sus scrofa (Pig).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1991 (Rel. 17, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST GROWTH FACTOR) (AFGF) (ALPHA-ENDOTHELIAL CELL GROWTH FACTOR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHAIN
SEQUENCE
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
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INTERPRO; IPR002209; -
INTERPRO; IPR002348; -
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-HEART;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (FRAGMENT)
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P09038;
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Pred. No. 0.00
1; Mismatches
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FIBROBLAST GROWTH FACTOR-4-II.
; 2B01B0BB8824E3B3 CRC64;
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Sus.
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FGFL_MESAU ST

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AC P34004;

DT 01-FEB-1994 (Rel.

DT 01-FEB-1994 (Rel.

DT 15-JUL-1999 (Rel.

DE HEPARIN-BINDING G
    SOFTITION TO DESCRIPTION OF THE STREET OF TH
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Best Local
Matches 1
                                                                                                                                                                                                                                                                                       THAN DOES BIGF.
-!- SIMILARITY: BELON
PIR; A60721; A60721.
HSSP; P05230; 2AXM.
  BINDING
BINDING
SEQUENCE
                                                                          PROPEP
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                           "Characterization of the hamster DDT-1 cell aFGF/HGBF-I gene and and its modulation by steeroids.",

J. Cell. Biochem. 43:17-26(1990).

-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC A IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES I VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BINDING
BINDING
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SEQUENCE
                                                                                                                                         PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
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PROPEP
                                                                                                                       Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GROWTH FACTOR) (AFGF). FGF1 OR FGF-1.
                                                                                                                                                                                                                                                                                                                                                                              CONCENTRATION OF THESE 2 GROWTH FACTORS.
-!- SUBUNIT: MONOMER.
-!- MISCELLANDOUS: THIS PROTEIN BINDS HEPARIN, ALTHOUGH LESS STRONGLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE; 90270291.
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p 16 >15
16 >15
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NG 24 28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Rel. 28, Created)
(Rel. 28, Last sequence update)
(Rel. 38, Last annotation update)
DING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
Mitogen; Vascularization; Heparin-binding.

15 BY SIMILARITY
6. 155 HEPARIN-BINDING GROWTH FACTOR
14 28 HEPARIN (POTENTIAL).
3 116 HEPARIN (POTENTIAL).
3 116 HEPARIN (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                        BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HBGF_FGF; 1.
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50.0%;
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                                                                                                                                                                                                                                                                                                                                      THE
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HEPARIN (POTENTIAL).
C -> S (IN REF. 2).
R -> Y (IN REF. 2).
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Pred. No. 0.0062;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ENDOTHELIAL CELL
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                                                                                                                                                                                                                                                                                                                                   GROWTH FACTORS FAMILY
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IN
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                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                       P10935;
01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST
                                                                                                                                                                                                                                                                                                                                                                                                        Madiai F., Hackshaw K.V., Ching Cloning and characterization Gene 179:231-236(1996).
                                                                                                             entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Isolation of cDNAs encoding four mou
characterization of their expression
Dev. Biol. 138:454-463(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Goodrich S., Yan G.C., Bahrenburg K., Mansson P. "The nucleotide sequence of rat heparin binding (HBGF-1).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse), and Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                             Alam K.Y., Frostholm A.,
                                                                                                                                                                                                                                                                                                                                                       MEDLINE; 97094746
                                                                                                                                                                                                                                                                                                                                                                      SPECIES-MOUSE; STRAIN-BALB/C;
                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE; 97128312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GROWTH FACTOR) (AFGF).
FGF1 OR FGF-1 OR FGFA.
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                      X14232; CAA32448.1; -.

W30641; AAA37618.1; -.

U36459; AAC52969.1; -.

U36457; AAC52969.1; JOIN

U36458; AAC52969.1; JOIN

U36450; AAC52907.1; -.
                                                                                                                                                                                                                SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                              SUBUNIT: MONOMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |:|||| |:|:: :|:| ||:
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 S04147
D37360
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                                    JOINED.
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RESULT 15
FGF4_CHICK
ID FGF4_C
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Matches 11; Conser
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INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
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P48804;
01-FEB-1996
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                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                   rGF4 OR FGF-4.
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
FIBROBLAST GROWIH FACTOR-4 PRECURSOR (FGF-4)
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                                                 PRINTS; PRO0262; IL1HBGF.
PRINTS; PRO0263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
                                                                                       INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                           Nature 371:609-612(1994).

-i- FUNCTION: MAY BE THE ENDOGENOUS RIDGE SIGNAL FOR LIMB DEVELOPMENT.

-ECCIPROCAL INTERACTIONS MAY CREATE A POSITIVE FEEDBACK LOOP
BETWEEN SONIC HEDGEHOG (SHH) AND FGF4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00262; ILLHBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
                             Growth factor; Mitogen; Signal.
                                                                                                                                                                                                                                                                   -i- TISSUE SPECIFICITY: POSTERIOR RIDGE.
-i- INDUCTION: BY RETINOIC ACID.
-i- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                          "A positive feedback
                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N'A. MEDLINE; 95021713.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Gallus.
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SEQUENCE
                          SIGNAL
                                                                                                                             HSSP; P09038; 13FF
                                                                                                                                         EMBL; U14654; AAA58706.1;
                                                                                                                                                                   or send an email to license@isb-sib.ch).
                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                              vertebrate limb."
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HEPARIN-BINDING GROWTH FACTO
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FIBROBLAST GROWTH FACTOR-4.
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HEPARIN (POTENTIAL).
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Copyright (c) 1993 - 2000 Compugen Ltd.
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O77767 canis famil
Q60487 cavia porce
P78443 homo sapien
P79706 cynops pyrr
Q007659 gallus gall
Q9yh31 notophthalm
P79685 ambystoma m
Q90696 gallus gall
Q14915 homo sapien
Q99178 oryzias lat
Q9yg48 oncorhyachu
O42778 brachydanio
O57341 brachydanio
O57341 brachydanio
O83145 treponema p
P79925 xenopus lae
Q74719 debaryomyce
O57398 cyprinus ca
Q9pw18 cyprinus ca
Q9pw18 cyprinus ca
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ALIGNMENTS

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% AAC.339 % 1 BFF: RR002209; 7; FGF; 1- 00247; HBGF x; Mitogen cion; Devel 1 1 21 21 23 63 65	ENCE FROM N.A. IDE-ADRENAL GLAND; Inta O.A., Jacobs R.M., LAMARITE J.; Irole bFGF in canine Hemangiosarcoma."; Irole bFGF in canine Hemangiosarcoma."; ILTURITION: WIDE-SPECTRUM MITOGENIC, ANGIOGENIC, AND PATHOLOGIC FACTOR. INPLICATED IN A MULTITUDE OF PHYSIOLOGIC AND PATHOLOGIC FACTOR. INFLICATED IN AMULTITUDE OF HYSIOLOGIC AND PATHOLOGIC PROCESSES, INCLUDING LIMB DEVELOPMENT, ANGIOGENESIS, WOUND HEALING, AND TUMOR GROWTH. POTENT MITOGEN AND CHEMOATTRACTANT FACESHORME-DERIVED CELLS. IMPLICATED IN THE DIFFERENTIATION, PROLIFERATION, AND MAINTENANCE OF CELLS IN THE CENTRAL REPVOUS SYSTEM AND IN BONE FORMATION. MAJOR ANGIOGENIC FACTOR THAT ALSO ACTIVATES TOMOR NEOVASCULARIZATION (BY SIMILARITY). SUBUNIT: FORMS A QUATERNARY COMPLEX WITH TWO FGFRI AND AT LEAST ONE HEPARAN SULFATE (BY SIMILARITY). SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILARITY:	PRELIMINARY; PRT; 130 AA. 7, 1998 (Tremblrel. 08, Created) 7-1998 (Tremblrel. 08, Last sequence up 7-2000 (Tremblrel. 13, Last annotation reibroblas; Growth Factor (BFGF) (FGF-2 7 2) (PROSTATROPIN) (PROSTATIC MENT). familiaris (Dog). familiaris (Dog). fas; Eutheria; Carnivora; Fissipedia; Crinivora; Fissipedia; C.
MAC35912:1; (09; (F; 1 HBGF_FGF; 1 togen; Vascularizatio Developmental protein 23 CELL ATTA 65 CELL ATTA 11 HEPARIN (, LAMATTE R.M., LAMATTE IN INC. TO THE EMBL/GETOTRUM MITGOSE DECTRUM MITGOSE DI NA MULITURE DI NA MULITURE DI NA MULITURE DI NA MULITURE DI CELLS. IMPLION GROWTH. POTION GROWTH. POTION DI MAINTENANCE ND MAINTENANCE NE FORMATION. 1 MEDVASCULARIZA. QUATERNARY CON AUGS TO THE HEPIROL TO THE H	NARY; PRT; 13 rel. 08, Created) rel. 08, Last sequen rel. 13, Last annota ONTH FACTOR (BFGF) ((PROSTATROPIN) (PROS (PROSTATROPIN) (PROS Oog). Chordata; Craniata; Carnivora; Fissiped
. larization; Hep l protein. CELL ATTACHMENT CELL ATTACHMENT CELL ATTACHMENT	M., LAMATTE J.; the EMBL/GenBank/DDBJ datal the EMBL/GenBank/DDBJ datal TRUM MITOGENIC, ANGIOGENIC, IN A MULTITUDE OF PHYSIOLOGE NOTEN AND DEVELOPMENT, ANGIOGE GEILS. IMPLICATED IN THE DII MAINTENANCE OF CELLS IN THE FORMATION. MAJOR ANGIOGENIC MAINTENANCE OF CELLS IN THE FORMATION MAJOR ANGIOGENIC MAINTENANCE OF CELLS FORMATION MAJOR ANGIOGENIC YASCULABIZATION (BY SIMILAR JESUS STMILARITY). TO THE HEPARIN-BINDING GROUND TO THE HEPARIN-BINDING G	PRT; 130 AA. Created) Last sequence update) Last annotation update) CR (BFGF) (FGF-2) (HEPA COPIN) (PROSTATIC GROWTH COPIN) (PROSTATIC GROWTH) (PROSTATIC GROWTH COPIN) (P
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A MASCATARE, 0,2000.

A MOSCATCHAIL D. JOSEPH-Silverstein J., Manejias R., Rifkin D.B.;

AT "Mr 25,000 heparin-binding protein from guinea pig brain is a high

AT molecular weight form of basic fibroblast growth factor.";

AT molecular weight form of basic fibroblast growth factor.";

AT molecular weight form of basic fibroblast growth factor.";

AT proc. Natl. Acad. Sci. U.S.A. 84:5778-5782(1987).

C. -i- FUNCTION: WIDE-SPECTRUM MITOGENIC, AND NEUROTROPHIC

C. -i- FUNCTION: MIDE-SPECTRUM MITOGENIC, AND INTEGRATION PATHOLOGIC

C. -i- FUNCTION: MIDE-SPECTRUM MITOGENIC, AND CHEMOATTRACTANT FOR

C. -i- SUBUNIT: FORM AND TUMOR GROWTH. POTENT MITOGEN AND CHEMOATTRACTANT FOR

C. -i- SUBUNIT: FORMS A QUATERNARY COMPLEX WITH TWO FGFRI AND AT LEAST

C. -i- SUBUNIT: FORMS A QUATERNARY COMPLEX WITH TWO FGFRI AND AT LEAST

C. -i- ALTERNATIVE PRODUCTS: AT LEAST TWO ISOFORMS, 18 KDA AND 25 KDA

C. -i- SUBUNIT: FORMS AND BE PRODUCED BY USE OF ALTERNATIVE TRANSLATION

C. -i- THE N-TERMINAL OF ISOFORM 18 KDA IS BLOCKED (PROBABLE).

C. -i- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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01-MAY-2000 (TremBLrel. 13, Last sequence update)
01-JUN-2000 (TremBLrel. 14, Last annotation update)
FIBROBLAST GROWTH FACTOR 2 (FGF-2) (FIBROBLAST GROWTH FACTOR, BASIC)
(BFGF) (HEPARIN-BINDING GROWTH FACTOR 2) (HBGF-2) (PROSTATROPIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        of a
                                                                                                                                                                                                                                                                                                                                        Burgess W.H., Bizik J., Mehlman T., Quarto N., Rifkin D.B.; "Direct evidence for methylation of arginine residues in high molecular weight forms of basic fibroblast growth factor."; Cell Regul. 2:87-93(1991).
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Ricciardelli C.;
Submitted (JAN-1996)
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                                                                                                                                                                                                                                                                                               TISSUE=BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cavia porcellus (Guinea
                                                                                                                                                                                                                                                                                                                                                                                                                                                       "An amino-terminally extended and post-translationally modified of a 25kD basic fibroblast growth factor.";
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MEDLINE; 89184522.
Prats H., Kaghad M., Pro
Liauzun P., Chalon P.,
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01-MAY-1997
01-MAY-1997
01-JUN-2000
21 KDA BASIC
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF-FGF; 1.
Growth factor; Mitogen; Vascul
Alternative initiation; Methyl
        "Reverse transcription with nested polymerase chain reaction show expression of basic fibroblast growth factor transcripts in human granulosa and cumulus cells from in vitro fertilisation patients.
                                                            SEQUENCE MEDLINE;
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                                                                                          "High molecular mass form initiated by alternative water Acad. Sci. U.
                                                                                                                                                                                        Eukaryota;
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                              Thomas E.J.;
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93038590.
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Eutheria;
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Metazoa; Chordata; C
Metazoa; Primates; (
                                                 Anthony F.,
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(TrEMBLrel.
C FIBROBLAST
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Res.
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, Tauber J.P., Amalric F., S
forms of basic fibroblast gr
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i. U.S.A. 86:1836-1840(1989).
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CROWTH FACTOR (BFGF).
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Pred. No. 4.4e-10;
Mismatches 0;
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T 01-MAY-1997 (TREMBLrel. 03, Last sequence update)
T 01-MAY-2000 (TREMBLrel. 13, Last annotation update)
DE BASIC FGF (FRAGMENT).
C Cynops pyrrhogaster (Japanese common newt).
C Eukaryota; Metazoa; Chordata; Craniata; Vertebrat
T 01-MAY-2000 (TREMBLREL).
C S Cynops pyrrhogaster (Japanese common newt).
C S Cynops pyrrhogaster (Japanese common newt).
C S Cynops Byrrhogaster (Japanese common newt).
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EMBL; S47980; AAD13853.1; -.
HSSP; P09038; IBFF.
INTERPRO; IPR002209; -.
INTERPRO; IPR002248; -.
PFAM; PF00167; FGF; 1.
PRINTS; PR00262; ILL1HBGF.
PRINTS; PR00263; HBGFFGF; PROSITE; PS00247; HBGFFGF; 1.
PRODOM; PD000831; -; 1.
SEQUENCE 196 AA; 21203 MW; D
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Q07659;
01-NOV-1996 (TrEMBLrel. 01, C:
01-NOV-1996 (TrEMBLrel. 01, L:
01-JUN-2000 (TrEMBLrel. 14, L:
FIEROBLAST GROWTH FACTOR.
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                   Gallus gallus (Chicken).
Eukaryota; Metazoa; Chor
Archosauria; Aves; Neogn
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HSSP; P09038; 2BEM.
INTERPRO; IDR002209; --
PFAM; PF00167; FGF; 1.
PROSITE; PS00247; HBGF_FGF;
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Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases
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101 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; AAA52532.1;
; AAD13853.1;
; 1BFF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101
11906 MW;
                     Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽.,
                   Chordata; Craniata; Vertebrata;
Neognathae; Galliformes; Phasian:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97.4%;
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Last sequence update)
Last annotation update)
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Pred. No. 1e-09;
0; Mismatches
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Pred. No. 1.4e-09;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        74A16C866C1F457A CRC64;
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                     cebrata; Euteleostomi;
Phasianidae; Phasiani
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Salamandridae; Cyno
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                       Phasianinae;
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Best Local S
Matches 20
                                                                               Query Match
Best Local Similarity 50.0
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9YH31;
01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
01-JUN-2000 (TREMBLREL 14, Last annotation update)
PUTATIVE FIBROBLAST GROWTH FACTOR-4.
Notophthalmus viridescens (Eastern newt) (Triturus viridescens).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae;
                                                                                                                                                                                                                                                                               INTERPRO; IPRO01064; ...
INTERPRO; IPRO0209; ...
INTERPRO; IPRO02348; -..
PEAM; PRO0167; FGF; 1.
PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE; 93246053.
Borja A.Z., Zeller R., Meijers C.;
"Expression of alternatively spliced bFGF first antisense mRNAs during chicken embryogenesis.";
Dev. Biol. 157:110-118(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9YH31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Development 109:387-393(1990).
EMBL; M95706; AAA48616.1; -.
EMBL; X56804; CAA40139.1; -.
HSSP; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                                                                                                                              "Putative Newt Fibroblast Growth Factor-4.";
Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases.
EMBL; U76998; AAC98812.1;
HSSP, P09038; 18FF.
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
PRINTS; PR00262; IL1HBGF
                                                                                                                                                                                                                 PROSITE; PS00225; CRYSTALLIN_BETAGAMMA; UNKNOWN_1.
PROSITE; PS00247; HBGF_FGF; 1.
PRODOM; PD000831; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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                                                                                                                                                                                                 SEQUENCE
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154
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NNYNAYESWRYPGMYIALSK 173
                         NNYNTYRSRKYSSWYVALKR
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20; Conserv
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                                                                                    Score 60; DB
Pred. No. 0.09
3; Mismatches
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Pred. No. 1.5e-09;
0; Mismatches 1
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                                                                                                      DB 13;
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RESULT PROBLEMS OF SET 
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Best Local
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Han M.J., Kim W.S.;
Submitted (FEB-1997) to the
EMBL; Y11093; CAA71967.1;
HSSP; P09038; 1BFC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fallus gallus (Ch#cken).

Gallus gallus (Ch#cken).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota; Metazoa; Chordata; Galliformes; Phasianidae; Phasiani
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HSSP; P09038; 1FGA.
INTERPRO; IPR002209; -.
                                                                                                                                                                                                                                                                                                                           limb development.";
Cell 84:127-136(1996).
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Crossley P.H., Minowada
"Roles for FGF8 in the i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1996 (TIEMBLIFE: 01, Created)
01-NOV-1996 (TIEMBLIFE: 01, Last sequence up
01-NAY-2000 (TIEMBLIFE: 13, Last annotation
FIBROBLAST GROWNH FACTOR 8 FGF8 (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Amphibia; Batrachia;
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Eukaryota; Metazoa;
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01-MAY-1997 (TrEMBLrel. C
01-MAY-2000 (TrEMBLrel. 1
FIBROBLAST GROWTH FACTOR
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TISSUE=BRAIN;
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                                                                                                                                                                                                                                            PFAM; PF00167;
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126
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NNYTALQNAKYEGWYMAFTR 145
                                      NNYNTYRSRKYSSWYVALKR
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9; Conserv
                                                                              similarity
9; Conser
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                                                                                                                                                                                   204 AA;
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Chordata;
; Caudata;
                                                                                                                                                                                   23730 MW;
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                                                                            Score 58; DB
Pred. No. 0.2:
3; Mismatches
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Pred. No.
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Salamandroidea; Ambystomatidae;
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                                                                                                                                                                                                                                                                                                                                                                 Martin
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                                                                                                                Length 204;
                                                                                                                                                                                                                                                                                                                                                                   maintenance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                       G.R.;
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                                                                          Gaps
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RESULT
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OPPT
SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

Carl M., Wittbrodt J.;

Regraded interference with FGF-signalling uncovers its

"Graded interference with FGF-signalling uncovers its

"Graded UNU-199) to the EMBL/GenBank/DDBJ databa:

Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databa:

EMBL; AJ243210; CAB64349.1; -.

DR INTERPRO; IPR002209; -.

INTERPRO; IPR0022348; -.

PPAM: PF00167; FGF; 1.
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                               Q9PT78;
Q9PT78;
01-MAY-2000
01-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U47011; AAC50782.1; --
EMBL; U47009; AAC50782.1; JOINED.
EMBL; U47010; AAC50782.1; JOINED.
EMBL; B014615; BAA28605.1; --
EMBL; U56978; AAB03787.1; --
EMBL; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oncogene
EMBL; U47
                                                                                                                                                                                                                                                                    Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Acanthoptery, Atherinomorpha; Cyprinodontiformes; Adrianichthyoidei; Adrianichthyidae; Oryzinae; Oryzias.
                                                                                                                                                                                                                                                                                                                                                          FGF8 (FRAGMENT).
Oryzias latipes (Medaka fish).
                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERPRO; IPRO02209; -.
PFAM; PF00167; 'FGF; 1.
PROSITE; PS00247; HBGF_FGF;
PRODOM; PD000831; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gemel J., Gorry M., Ehrlich "Structure and sequence of k Genomics 35:253 257 (1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FIBROBLAST GROWTH FACTOR FGF8 OR FGF8F OR FGF-8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Payson R.A., Wu J., Liu
Oncogene 0:0-0(0).
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MEDLINE; 96299767.
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9; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                        (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
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Primates;
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45.0%;
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Last annotation update)
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Pred. No. 0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
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U.,
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                                                                                                                                                                                                                                                                                                              Acanthopterygii;
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Best Local S
Matches
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Best Local S
Matches 10
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Blochim, Biophys. Acta 1443:305-314(1998).
EMBL; Y16850; CAA76422.1; -.
HSSP; P09038; HBFF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NON_TER
NON_TER
SEQUENCE
            Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
Cypriniformes; Cyprinoidea; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                 042278
042278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF; 1.
PROSITE; PS00225; CRYSTALLIN_BETAGAMMA; UNKNOWN_1.
PROSITE; PS00247; HBGF_FGF; 1.
PRODOM; PD000831; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Meopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
                                                                                                                                  01-JAN-1998 (Tremblrel. 05, 01-JAN-1998 (Tremblrel. 05, 01-JUN-2000 (Tremblrel. 14, FIBROBLAST GROWTH FACTOR 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-1999 (TIEMBLIEL 10, Created)
01-MAY-1999 (TIEMBLIEL 10, Last sequence update)
01-VAY-1999 (TIEMBLIEL 14, Last annotation update)
FIBROBLAST GROWTH FACTOR 6-RELATED PROTEIN.
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10; Conser
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182 /
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                                                                                                                                                                                                                                                         PRELIMINARY;
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                                                                                                                                                        Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 56; DB Pred. No. 0.41 2; Mismatches
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Pred. No. 0.2
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0.26;
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RESULT 083145 ID 083

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083145

PRELIMINARY;

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RESULT OF THE PROPERTY OF THE 
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                                                                                                     Query Match
Best Local :
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Best Local
                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            O57341 PRELIMINARY;
O57341;
O57341;
O1-JUN-1998 (Tremblrel. 06, C.
O1-JUN-1998 (Tremblrel. 14, L.
FIBROBLAST GROWTH FACTOR 8.
FGF-8 OR FGF8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sleptsova-Friedrich I.L., Posubmitted (OCT-1997) to the EMBL; AF030560; AAB82614.1; HSSP; P09038; 1BLD.
                                                                                                                                                                                                                                                                                                                                                                                                "Fgf8 is mutated in zebra required for maintenance and somitogenesis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Brachydanio rerio (Zebrafish) (Zebra danio)
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Cypriniformes; Cyprinoidea; Cyprinidae; Rasborinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00247; HBGF_FGF; UNKNOWN_1.
PRODOM; PD000831; -; 1.
SEQUENCE 210 AA; 24672 MW; EE86665
                                                                                                                                                                                       PROSITE; PS00247; HBGF_FGF; UNKNOWN_1
PRODOM; PD000831; -; 1.
SEQUENCE 210 AA; 24697 MW; 9D9CA51
                                                                                                                                                                                                                                               ZFIN; ZDB-GENE-990415-72;
INTERPRO; IPRO02209; -.
PFAM; PF00167; EGF; 1.
                                                                                                                                                                                                                                                                                                              EMBL; AF034264; AAC60303.1;
EMBL; AF051365; AAC41302.1;
HSSP; P09038; 13LD.
                                                                                                                                                                                                                                                                                                                                                                          Development 125:2381-2395(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brand M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. MEDLINE; 98274197.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fuerthauer M., Thisse
"A role for FGF-8 in t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. MEDLINE; 98043861.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PEAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Reifers F., Boehli H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gastrula.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Development 124:4253-4264(1997).
136
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  NNYTALONVKYEGWYMAFTR 155
                                                                                  Similarity
9; Conserv
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9; Conservative
                                                                                    Conservative
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                                                                                                     48.78;
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dorsoventral
                                         21
                                                                                                                                                                                                                                                                                          fgf8
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he EMBL/GenBank/DDBJ
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Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 56; DB
Pred. No. 0.42
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
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                                                                                                       Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                         9D9CA5B8E18A435A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EE86665316B7B97E
                                                                                    Mismatches
                                                                                                       No. 0.42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Crossley
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                                                                                                                           Length 210;
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                                                                                    Indels
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development
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P7925
ID 979925
AC 979925
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AC 979925
AC 979925
AC 979926
DT 01-MAY
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Best Local S
Matches 10
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Best Local S
Matches 8
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01-NOV-1998 (TrEMBLrel. 08, C
01-NOV-1998 (TrEMBLrel. 08, L
01-JUN-2000 (TrEMBLrel. 14, L
LICC PROTEIN (LICC).
TP0107.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P79925 PRELIMINARY;
P79925;
O1-MAY-1997 (TrEMBLrel. 03, C:
O1-MAY-1997 (TrEMBLrel. 03, L:
O1-MAY-2000 (TrEMBLrel. 13, L:
FIBROBLAST GROWTH FACTOR 8 (F
                                                                                                                                                                                                                                                                                                            PROSITE;
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.

MEDLINE; 98.104248.

Christen B., Slack J.M.W.;

"FGF-8 is associated with anteroposterior patterning and

"regeneration in Xenopus.";

regeneration 192.455-466(1997).

EMBL; Y10312; CAA71365.1; -.

HSSP; P09038; IBLD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fraser C.M., Norris S.J., Weinstock G.M., White O., Sutton G.G., Dodson R., Gwinn M., Hickey E.K., Clayton R., Ketchum K.A., Sodergren E., Haræham J.M., McLeod M.P., Salzberg S., Peterson J., Khalak H., Richardson D., Howell J.K., Chidambaram M., Utterback T., McDonald L., Artiach P., Bowman C., Cotton M.D., Fujii C., Garland S., Hatch B., Horst K., Roberts K., Sandusky M., Weidman J., Smith H.O.,
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Bacteria; Spirochaetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO; IPRO01245; -.
PROSITE; PS00109; PROTEIN_KINASE_TYR; 1.
SEQUENCE 525 AA; 61044 MW; E46DDCACC79BAB10 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Science 281:375-388(1998).
EMBL; AE001195; AAC26555.1; -.
TIGR; TP0107; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Complete genome sequence of Treponema pallidum, the syphilis spirochete.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=NICHOLS;
MEDLINE; 98332770.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Venter J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                    INTERPRO; IPR002209; -.
PERM; PF00167; FCGF; 17.
PROSITE; PS00247; HBGE_FGF; UNKNOWN_1.
NON_TER 200 200
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2 NNYNTYRSRKYSSWYVALKR 21
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l Similarity 43.5%;
10; Conservative
                                                                                                                    Similarity
8; Conserv
                                                                                                                                                                                                                                                                                                                    200 AA;
                                                                                                                45.2%; Score 52; DB clarity 40.0%; Pred. No. 1.6; Conservative 4; Mismatches
                                                                                                                                                                                                                                                                                                            200
23453 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Spirochaetaceae; Treponema
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     , Last sequence update)
, Last annotation update)
(FRAGMENT).
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Last sequence update)
Last annotation update)
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Pred. No. 3.6;
5; Mismatches
                                                                                                                                                                                                                                                                                                                    AB3C6B51C5ED5C7A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 200 AA
                                                                                                                                                                                                DB 13; Length 200;
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Db 125 NNYTALQNVKYEGWFMAFTR 144

Search completed: November 9, 2000, 15:39:32 Job time: 609 sec

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Result
No.
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM protein - protein search, using sw model
     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score
     Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIR_65:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-266-543-3
78
   BLOSUM62
Gapop 10.0 , Gapext 0.5
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129 CRPKKDKARQEKCDKPRR 146

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C:Accession: A26983
R:Beri, R.K.; Whittington, H.; Roberts, C
Nucleic Acids Res. 15, 7991-8001, 1987
A;Title: Isolation and characterization of A;Reference number: A26983; MUID:88040423
                       A; Reference number: A; Accession: A26983
                                                                                             regulatory protein QUTA - Emericella nidulans C;Species: Emericella nidulans, Aspergillus nidulans C;Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #t C;Accession: A26983
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                                                                                                                                                                                                                                                                                                                                                                                                                                    A:Reference number: Z16893
A;Accession: T09978
A:Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-139 <GAL>
A;Residues: 1-139 <GAL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R:Galau, G.A.; Wang, H.Y.C.; Hughes, submitted to the EMBL Data Library, A;Description: Cotton Mat5-A (C164)
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A; Nolecule type: mRNA
A; Residues: 1-139 <GAL>
A: Cross-references: EMBL: M83301;
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C;Genetics:
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21-139/Product: albumin 2S storage protein Mat5-A #status predicted
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6; Conservative
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                                                                          C.F.; Hawkins,
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A;Cross-references: EMBL:AF065411; NID:g3249585; PID:g3249596; PIDN:AAC27050.1 A;Experimental source: host Methanobacterium thermoautotrophicum strain Marbur. C;Superfamily: Methanobacterium phage psiM2 hypothetical protein 11
                                                                                                                                                                                                       R; Pfister, P.; Wasserfallen, A.; Stettler, R.; Leisinger; submitted to the EMBL Data Library, May 1998
A; Description: Archaeophage PsiM2 complete genomic DNA.
A; Reference number: 217578
A; Accession: T12727
                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-216 <PFI>
                                                                                                                                                                                                                                                                                     hypothetical protein 11 - Methanobacterium phage psiM2
C;Species: Methanobacterium phage psiM2
C;Date: 13-Aug-1999:#sequence_revision 13-Aug-1999 #text_change
C;Accession: T12727
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C; Genetics:
A; Gene: QUTA
A; Gene: QUTA
C; Superfamily: unassigned GAL4-type zinc cluster proteins;
C; Keywords: DNA binding; nucleus; transcription regulation
F; 44-81/Domain: GAL4-zinc binuclear cluster homology <GAL4-
                                                                                                                                                                                             A; Status: translated from
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A;Cross-references: GB:AE001338; GB:AE001273; NID:g3329126;
A;Experimental source: serotype D, strain UW-3/Cx
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R;Stephens, R.S.; Kalman,
Science 282, 754-759, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probable pbp2-transgiycolase/transpeptidase - Chlamydia trachomatis (serotype
C;Species: Chlamydia trachomatis
C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 08-Oct-1999
C;Accession: A71485
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A; Residues: 1-1080 </
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66.7%;
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                              Score 40; DB
Pred. No. 36;
1; Mismatches
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A;Description: interacts with a short DNA sequence of the A;Note: may interfere with coordination of protein synth C;Superfamily: bacteriophage T4 late gene expression bluc;Keywords: transmembrane protein; zinc F;61-82/Domain: transmembrane #status predicted <TM1>F;149-178/Domain: transmembrane #status predicted <TM2>F;160,164/Binding site: zinc (His) #status predicted F;161/Active site: Glu #status predicted
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A; Residues: 1-120, 'OYANHGL', 128, 'NV', 131, 'SQKH', 136-297 <KAO>
A; Cross-references: GB:M19634; NID:g146626; PIDN:AAA24074.1; 1
A; Experimental source: strain JM101
C; Genetics:
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A;Cross-references: FlyBase:FBgn0003502
A;Map position: 29A
C;Superfamily: protein-tyrosine kinase src;
C;Keywords: ATP; autophosphorylation; phospi
F;152-201/Domain: SH3 homology <SH3>
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Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617
A;Accession: H64858
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A; Genome: crypti
C; Function:
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A;Cross-references: FlyBase:FBgn0003502
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A; Residues: 1-590 <GRE>
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A;Title: Primary sequence and developmental expression of a novel A;Reference number: A27807; MUID:87257924
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Description: interacts with a short DNA sequence of the major capsid protein gene Note: may interfere with coordination of protein synthesis and assembly of T4 head
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Date: 31-Mar-1990 #sequence_revision 05-Dec-1997 #text_change 16-Jul-1999 Accession: H64858; A30386; Q00194
                                                                                                                                                                                                                                                                                                                                                                                                                Accession: A27807
                                                                                                                                                                                                                                                                                                                                                                                                                                      Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 11-Jun-1999
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is designated
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as Dsrc28C
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                       e src; protein kinase homology; SH2 homology; SH3
phosphoprotein; phosphotransferase; transforming
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47;
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QPESCEAPRR

847

4 KPEKCDKPRR 13

12

precursor

mouse

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gene NRIO protein - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 08-Oct-1999
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 08-Oct-1999
C;Accession: I48689; S49078
R;Lange, R.; Christoph, A.; Thiesen, H.J.; Vopper, G.; Johnson, K.R.; Lemai:
DNA Cell Biol 14, 971-981, 1995
DNA Cell Biol 14, 971-981, 1995
A;Title: Developmentally regulated mouse gene NK10 eucodes a xZInc Finger R
                                                                                                      R;Horne, W.A.; Ellinor, P.T.; Inman, I.; Zhou, M.; Tsien, R.W.; Schwarz Proc. Natl. Acad. Sci. U.S.A. 90, 3787-3791, 1993
A;Title: Molecular diversity of Ca(2+) channel alpha 1 subunits from th A;Reference number: A47447; MUID:93248175
A;Accession: B47447
A;Status: preliminary; not compared with conceptual translation A;Molecule type: mRNA A;Residues: 1-2326 <HORNA A;Note: sequence extracted from NCBI backbone (NCBIP:130673)
A;Note: sequence extracted from NCBI backbone (NCBIP:130673)
A;Note: sequence extracted from NCBI backbone (NCBIP:130673)
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A;Accession: I48689
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-636 <RES>
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148689
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F;328-588/Domain: protein kinase homology <KIN>
F;336-344/Region: protein kinase homology of motif
F;358/Active site: Lys #status predicted
F;481/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status
                                                                                                                                                                                                                                                                                                                                                       calcium channel protein alpha-1 chain (variant doe-4) - electric ray (Discopyge ommat
C;Species: Discopyge ommata
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C; Accession: B47447
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les 6; Conserv
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nes 6; Conservative
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    Conservative
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39; MUID:96069544
                          51.3%;
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58.3%;
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vascular endothelial growth factor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C;Accession: S52130
R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Blochim. Biophys. Acta 1260, 235-338, 1995
Blochim. Biophys. Acta 1260, 235-338, 1995
A;Title: Nucleotide sequence and expression of the porcine vascular endothel
Biochim. Biophys. Acta 1260, 235-238, 199
A;Title: Nucleotide sequence and expressi.
A;Reference number: S52130; MUID:95143284
A;Accession: S52130
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A;Map position: 5q33-5q31
C;Superfamily: unassigned EGF-related proteins; EGF homology
C;Keywords: extracellular protein
F;1-29/Domain: signal sequence #status predicted <SIG>F;1-29/Domain: signal sequence #status predicted <MAT>F;1245-1280/Domain: EGF homology <EGFT>
F;1970-2013/Domain: EGF homology <EGFT>
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A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-2907 <ZHA>
A;Cross references: GB:L39790; NID:g762830; PIDN:AAA74908.1;
C;Superfamily: unassigned EGF-related proteins; EGF homology
F;1239-1274/Domain: EGF homology <EGFT>
F;2488-2523/Domain: EGF homology <EGFF>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fibrillin-2 precursor - human
C;Species: Homo sapiens (man)
C;Date: 09-Sep_1994 #sequence_revision 09-Sep-1994 #text_change 11-Jan-2000
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A; Residues: 1-2918 <ZHA>
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A;Title: Developmental expression of fibrillin
A;Reference number: A57278; MUID:95263670
A;Accession: A57278
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Best Local :
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Biol. 129, 1165-1176, 1995
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58.3%;
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Pred. No. 3.1e+02;
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3.1e+02;
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A;Residues: 27-31 <FER>
C;Keywords: alternative splicing; glycoprotein
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #status predicted
F;100/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                    R;Ferrara, N.; Henzel, W.J.

Biochem. Biophys. Res. Commun. 161, 851-858, 1
A;Title: Pituitary follicular cells secrete a
A;Reference number: A33255; MUID:89286596
A;Accession: A33255
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A;Accession: B33787
A;Molecule type: mRNA
A;Residues: 27-190 <TIS>
A;Cross:references: GB:M31836; NID:g163808; PIDN:AAA30804.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007 R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Biochem. Biophys. Res: Commun. 165, 1198-1206, 1989 A;Title: Vascular endothelial growth factor: a new member of the platelet-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vascular endothelial growth factor precursor (version C;Species: Bos primigenius taurus (cattle) C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #te C;Accession: B40080; B33787; A33255
R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D. Science 246, 1306-1309, 1999
A;Title: Vascular endothelial growth factor is a secre
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QA1F_NEUCR	PIGR_RAT	OPUD_BACSU	GLC1_SOYBN	YAIP_ECOLI	YAOC_SCHPO	H1_PEA	SGS4_DROME	TXO3_AGEAP	VGF1_IBVB	ACVT_PENCH	ACVS_PENCH
P11638 neurospora	P15083 rattus norv	P54417 bacillus su	P04776 glycine max	Q47536 escherichia	Q10091 schizosacch	P08283 pisum sativ	Q00725 drosophila	P33034 agelenopsis	P27920 avian infec	P26046 penicillium	P19787 penicillium

DR D	888888888888888	VEGE_S VEGE_S VEGEE_S OCC M M M M M M M M M M M M
EMBL; X89506; CAA61677.1; HSSP; P15692; 1VPF. INTERPRO; IPR00J072; PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF_1; 1. PROSITE; PS00249; PDGF_2; 1. Mitogen; Growth factor; Glycoprotein; Signal. SIGNAL 1 26 CHAIN 27 146 VASCULARITY. CHAIN 1 27 146 VASCULARITY. DISULFID 51 93 BY SIMILARITY. DISULFID 82 127 DISULFID 86 129 DISULFID 86 129 BY SIMILARITY. DISULFID 76 76 INTERCHAIN (BY SIMILARITY). DISULFID 85 85 INTERCHAIN (BY SIMILARITY). CARBOHYD 100 100 N-LINKED (GLCNAC) (POTENTIAL). SEQUENCE 146 AA; 17247 MW; 4E792CB557F91760 CRC64;	-:- SUBUNIT: HONDIMER, DISULFIDE-LINKED -:- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY) -:- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bi-informatics Institute. There are no restrictions on its use by non-pryfit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).	PRT; 146 AA. PEGF_SHEEP STANDARD; PRT; 146 AA. P50412; P50412; 01-CCT-1996 (Rel. 34, Created) 01-CCT-1996 (Rel. 34, Last sequence update) 01-NOV-1997 (Rel. 35, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF). PERMEABILITY FACTOR) (VPF). POVIS aries (Sheep). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Bovidae; Caprinae; Ovis. Bovidae; Caprinae; Ovis.
-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED -!- SUBCELLUTAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CHE TO THE EXTRACELLUTAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY)!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTO This SWISS-PROT-entry is copyright. It is produced through a co between the Swiss Institute of Bioinformatics and the EMBL of the European Bi-informatics Institutions as long as its content is use by non-prifit institutions as long as its content is modified and this statement is not removed. Usage by and for entities requires a license agreement (See http://www.isb-sib.or or send an email to license@isb-sib.ch).		

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RESULT
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AC P11072; P77283;
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ISSP, P25502; LAUI.
(NTERPRO), IPR001138; -.
PFAN, PF00172; En_clus; 1.
PFNNTS; PR00054; FUNGALZNOYS.
PROSITE; PS00463; ZN2_CY6_FUNGAL_1; 1.
PROSITE; PS50046; ZN2_CY6_FUNGAL_2; 1
Transcription regulation; Activator; DNA-binding; Nuclear protein; Zinc; Metal-binding; Quinate metabolism.
Zinc; Metal-binding; Quinate metabolism.
FUNGAL_7YPE.
76
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ZN(2)-CYS(6), FUNGAL-TYPE.
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Emericella
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PIR; A26983; A26983.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE; 88040423. Beri R.K., Whittin
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Fungi; Ascomycota; Eurotiales; Trichocomaceae;
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OShlima T., Aiba, H., Baba T., Fujita K., Hayashi K., Honjo A., Oshlima T., Aiba, H., Baba T., Kajihara M., Kanai K., Kashimoto K., Irada T., Itoh T., Kajihara M., Kanai K., Kashimoto K., Miki T., Mizobuchi K., Kimura S., Kitagawa M., Makimo K., Masuda S., Miki T., Mizobuchi K., Mori H., Motomura K., Nakamura Y., Nashimoto H., Nishio Y., Saito N., Sampei G., Seki Y., Tagami H., Takemoto K., Wada C., Yamamoto Y., Yano M., Horiuchi T.;
                                                                                                                                                                                                                                                                                                                                                            EMBL; M19634; AkA24074.1; --
EMBL; AE000214; AAC74223.1;
EMBL; D90748; BAA35959.1; --
EMBL; D90749; BKA35968.1; --
EMBL; Q00194; BYECLT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "A 718 kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 12.7-28.0 min region on the linkage map.";
DNA Res. 3:137-155(1996).

-i- EUNCTION: INTERACTS WITH A SHORT DNA SEQUENCE ABOUT ONE-QUARTER
OF THE WAY INTO THE MAJOR CAPSID PROTEIN GENE 23 OF T4, AND THE
INHIBITION OCCURS WHEN THIS LATE GENE OF THE VIRUS IS EXPRESSED.
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"The complete genome sequence of Escherichia coli K-12.";
Science 277:1453-1474(1997).
                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement (S or send an email to license@isb-sib.ch).
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Blattner F.R.; Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The lit gene product which blocks bacteriophage T4 late gene expression is a membrane protein encoded by a cryptic DNA element, e14.";
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LIGHER membrane: Transmembrane.
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TRANSMEM 149 178 P
TONFLICT 121 135 T
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CESWPKKCPKP 133
                                        CRIKPEKCDKP 11
                                                                                     Similarity 6; Conserv
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                                                                                   Score 40; DB
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SC2_DRUME

J SRC2_DROME

C P08630; p11361;
C P08630; p11361;
JT 01-AUG-1988 (Rel. 08, Created)
DT 01-NUG-1988 (Rel. 08, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE TYROSINE-PROTEIN KINASE SRC28C (EC 2.7.1.112).
GN BTK29A OR SRC29A OR SRC2.
OS Drosophila melanogaster (Fruit fly).
CE Eukaryota; Metazoa; Arthropoda; Tracheata; Hexap Pterygota; Neoptera; Endopterygota; Diptera; Bri Prhvdroidea; Drosophilidae; Drosophila.
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SRC2_DF
    PIR; A27807; TVFFDS.

PIR; A23051; A23051.

HSSP; PI1362; 1FGI.

HSSP; PI1362; 1FGI.

INTERPRO; IPRO003502; Btk29A.

INTERPRO; IPRO001245; -..

INTERPRO; IPRO01245; -..

INTERPRO; IPRO01245; -..

PFFAM; PF00017; SH2; 1.

PFAM; PF00018; SH3; 1.

PFAM; PF00019; TYKRINASE.

PRINTS; PR00109; TYKRINASE.

PROSITE; PS00109; PROTEIN_KINASE_ATP; 1.

PROSITE; PS00101; PROTEIN_KINASE_DOM; 1.

PROSITE; PS50001; SH3; 1.

PROSITE; PS50001; SH3; 1.

PROSITE; PS50001; SH3; 1.

PROSITE; PS50001; SH3; 1.
                                                                                                                                                                                                                                                                                                                                                                         the European Bioipformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gregory R.J., Kammermeyer K.L., Vincent W.S. III, Wadsworth S.G.; "Primary sequence and developmental expression of a novel Drosophila melanogaster src gene.";
 DOMAIN
DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished observations (JUL-1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wadsworth S.C., Madhavan K., Bilodeau-Wentworth D.; "Maternal inheritance of transcripts from three Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 356-484 FROM N.A. MEDLINE; 85215606.
                                                                                                                                                                                                                                                                                                                                   EMBL; M16599; AAA28912.1; EMBL; X02305; CAA26170.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nucleic Acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  src-related genes."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mol. Cell. Biol.
                                                                       Tyrosine-protein kinase;
                                            NIAMOC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: CONTAINS 1 SH2 DOMAIN.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
SIMILARITY: TO OPHER PROTEIN-TYROSINE KINASES
DOMAIN. BELONGS TO THE BTK SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEVELOPMENTAL STAGE: EXPRESSED PREDOMINANTLY IN EARLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBRYOGENESIS
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 145 206
214 307
330 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      src gene.";
iol. 7:2119-2127(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTIVITY: ATP + A PROTEIN TYROSINE -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Res. 13:2153-2170(1985).
                                                                      Proto-oncogene;
                                                          SH3
                                                                                                                                                                                                                                                                                                                                ALT_TERM.
GLY-RICH.
SH3.
SH2.
PROTEIN KINASE.
                                                                      Phosphorylation;
                                                          domain
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a; Brachycera; Musc
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RESULT 5
ZF90_MOUSE
ID ZF90_N
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                                                                                                                                                                                                                                                                                                                                                                                                                     The velopmentally regulated mouse gene WRIO encodes a zinc finger repressor protein with differential DNA-binding domains.";
LDNA Cell Biol. 14:971-981(1995).

C. -!- FUNCTION: MAY FUNCTION AS A REPRESSOR OR SILENCER PROTEIN, AND MOST LIKELY EXERTS ITS REPRESSING ACTIVITY UPON ZINC-DEPENDENT BINDING TO DNA. MAY BE INVOLVED IN PROPER SPERMATOGENESIS BY REPRESSING THE EXPRESSION OF GENES UNNECESSARY OR INCOMPATIBLE WITH THE MAXINTENANCE OF A HAPLOID CELL STATE.

C. -!- SUBCELLULAR LOCATION: NUCLEAR.

C. -!- SUBCELLULAR LO
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Best Local
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INTERPRO; IPRO00822; ...
INTERPRO; IPRO01909; ...
PFAM; PF001352; KRAB; I.
PFAM; PF00096; zf-C2H2; I3.
PFAM; PF00096; zINC_FINGER.
PRINTS; PR00048; ZINC_FINGER_C2H2; I3.
PROSITE; PS00028; ZINC_FINGER_C2H2; I3.
Zinc-finger; Metal-binding; DNA-binding; Nu
Transcription regulation; Repressor.
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01-NOV-1997
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BINDING
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SEQUENCE
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15-DEC-1998 (Rel. 37, Last annotation update)
ZINC FINGER PROTEIN 90 (ZFP-90) (ZINC FINGER PROTEIN NK10).
                                                                                                                                                                                                                                         entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                          use
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                                                                                                                                                          EMBL; X79828; CAA56225.1; -. HSSP; P08047; 1SP2. MGD; MGI:104786; ZFP90.
                                                                                                                                                                                                                                                                                                                                                  between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lange R., Christoph A., Thiesen H.-J., Vopper G.,
Lemaire L., Plomann M., Cremer H., Barthels D., H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-C57BL/6;
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                                                                                                                                                                                                                                                                                                                                            SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation -
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Metazoa; Chordata; C
Metazoa; Rodentia; S
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BY SIMILARITY PHOSPHORYLATION (AUTO-) (BY SIMILARITY).

S -> F (IN REF. 2).
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Sciurognathi; Muridae; Murinae;
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                         protein;
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RESULT 6
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; (Elasmobranchii; Squalea; Hypnosqualea; Pristiorajea;
Torpediniformes; Narcinoidei; Narcinidae; Discopyge.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-JUL-1999 (Rel. 38, Creat
15-JUL-1999 (Rel. 38, Last
30-MAY-2000 (Rel. 39, Last
PROBABLE VOLTAGE-DEPENDENT
(DOE-4).
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P56698;
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"Molecular diversity of Ca2+
ray Discopyge ommata.";
Proc. Natl. Acad. Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                                                MEDLINE;
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                                                                                                                                                                                                                                                                                                                                                                                         EQUENCE
                                                                                                    SIMILARITY).

- SUBCELLULAR LOCATION: INTEGRAL MI
- ALTERNATIVE PRODUCTS: AT LEAST 2
ALTERNATIVE SPLICING.
- TISSUE SPECIFICITY: EXPRESSION IN THE FOREBRAIN.
                                                                                                                                                                                                                                                                                                                                                                            ESSUE=ELECTRIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
                                                                                                                                                                            C. NATI ACAD. SCI. U.S.A. 90:3787-3791(1993).

FUNCTION: THE ISOFORM ALPHA-1B GIVES RISE TO N-TYPE CALCIUM FUNCTION: THE SOFORM ALPHA-1B GIVES BELONG TO THE "HIGH-VOLTAGE CURRENTS. N-TYPE CALCIUM CHANNELS BELONG TO THE "HIGH-VOLTAGE ACTIVATED" (HVA) GROUP (BY SIMILARITY).

SUBUNIT: VOLTAGE-DEPENDENT CALCIUM CHANNELS ARE MULTISUBUNIT COMPLEXES, CONSISTING OF ALPHA-1, ALPHA-2, BETA AND DELTA SUBUNITS IN A 1:1:1:1 RATIO. THE CHANNEL ACTIVITY IS DIRECTED BY THE PORE-FORMING AND VOLTAGE-SENSITIVE ALPHA-1 SUBUNIT. IN MANY CASES, THIS SUBUNIT IS SUFFICIENT TO GENERATE VOLTAGE-SENSITIVE CALCIUM CHANNEL ACTIVITY. THE AUXILIARY SUBUNITS BETA AND ALPHA-2/DELTA LINKED BY A DISULFIDE BRIDGE REGULATE THE CHANNEL ACTIVITY (BY
                     DOMAIN: EACH OF THE FOUR INTERNAL REPEATS CONTAINS FIVE HYDROPHOBIC TRANSMEMBRANE SEGMENTS (S1, S2, S3, S5, S6) AND ONE POSITIVELY CHARGED TRANSMEMBRANE SEGMENT (S4). S4 SEGMENTS PROBABLY REPRESENT THE VOLTAGE-SENSOR AND ARE CHARACTERIZED BY A SERIES OF POSITIVELY CHARGED AMINO ACIDS AT EVERY THIRD POSITION. PIMSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPK
SIMILARITY: BELONGS TO THE CALCIUM CHANNEL ALPHA-1 SUBUNITS
                (BY
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58.3%;
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annotation updat
N-TYPE CALCIUM C
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channel alpha 1
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KRAB BOX ("B BOX").
ZINC-FINGERS.
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CALCIUM CHANNEL ALPHA-1B SUBUNIT
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                                                                                                                                           MEMBRANE PROTEIN (BY SIMILARITY)
2 ISOFORMS ARE PRODUCED BY
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                                                                                                                 HIGHER IN THE ELECTRIC LOBE THAN
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om the marine
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INTERPRO; IPRO00636; -.
INTERPRO; IPRO02048; -.
INTERPRO; IPRO02077; -.
INTERPRO; IPRO02077; -.
PRAM; PF00036; efhand; 1.
PFAM; PF00520; ion_trans; 4.
PFAM; PF00520; ion_trans; 4.
PFAM; PF00520; ion_trans; 1.
Ionic channel; Transmembrane; Ion transport; Voltage-gated channel;
Ionic channel; Transmembrane; Ion transport; Voltage-gated channel;
Ionic channel; Glycoprotein; Repeat; Multigene family;
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 NOT_ANNOTATED_CDS.
CYTOPLASMIC (POTENTIAL).
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EXTRACELLULAR (POTENTIAL).
S2 OF REPEAT III (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
S3 OF REPEAT III (POTENTIAL).
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S2 OF REPEAT II (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

S3 OF REPEAT II (POTENTIAL).

EXTRACELLULAR (POTENTIAL).

S4 OF REPEAT II (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

S5 OF REPEAT II (POTENTIAL).
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EXTRACELLULAR (POTENTIAL).
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CYTOPLASMIC (POTENTIAL).
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EXTRACELLULAR (POTENTIAL).
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S4 OF REPEAT I (POTENTIAL).
S5 OF REPEAT I (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
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                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                         mouse chromosomes 2 and 18.";

Genomics 18:667-672(1993).

-i- FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS

THAT BINDS CALCIUM. FIBRILLIN-1-CONTAINING MICROFIBRILS PROVIDE

LONG-TERM FORCE BEARING STRUCTURAL SUPPORT.

-i- SIMILARITY: CONTAINS 43 CALCIUM-BINDING AND 4 NON-CALCIUM BINDING

EGF-LIKE DOMAINS.

-i- SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FBN2 OR FBN-2.

Mus musculus (Mouse).

Eukaryota; Metazoa; Chordata;

Mammalia; Eutheria; Rodentia;
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MEDLINE; 94140368.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zhang H., Hu W., Ramirez F.;
"Developmental expression of fibrillin
of extracellular microfibrils.";
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         EMBL; L39790; AAA74908.1;
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MW; D58DEAA09E819B6B CRC64;
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MGD; MGG:95490; FBN2.
INTERPRO; IPR000152; -.
INTERPRO; IPR000561; -.
INTERPRO; IPR000822; -.
INTERPRO; IPR001438; -.
INTERPRO; IPR001881; -.
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PROSITE; PS00010; ASX, HYDROXYL; 43.

PROSITE; PS01022; EGF_1; 2.

PROSITE; PS01186; EGF_2; 36.

PROSITE; PS01187; EGF_CA; 43.

Extracellular matrix; Calcium-binding;
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"Linkage of Marían syndrome and a phenot
two different fibrillin genes.";
Nature 352:330-334(1991).
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Bonadio J., Mecham R.P., Ramirez
"Structure and expression of fibr
component preferentially located
J. Cell Biol. 124:855-863(1994).
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VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY
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19330 MW;
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FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
UCES ENDOTHELIAL PROLIFERATION AND VASCULAR
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Hystricognathi; Caviidae; Cavia.
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EMBL; M31836; AAA30804.1; -
EMBL; M33750; AAA30805.1; -
PIR; A33255; A33255
PIR; A33787; A33787.
PIR; B40080; B40080.
HSSP; P15692; 2VCH.
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P15691;
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Ferrara N., Hensel W.J.;

Ferrara N., Hensel W.J.;

Frituitary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.";

Biochem. Biophys. Res. Commun. 161:851-858(1989).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTELL, GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-APR-1990 (Rel.
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01-OCT-1996 (Rel.
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01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                      HSSP; P15692, -...
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tischer E., Gospodarowicz D., Mitchell R., Lau K., Crisp T., Fiddes J.C., Abraham J.A.
"Vascular endothelial growth factor: a new derived growth factor gene family.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrat
Mammalia; Eutheria; Cetartiodactyla; Ruminantia;
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                                                                                                        Mitogen;
SIGNAL
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MEDLINE; 89286596.
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Vascular endothelial growth
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E; PS00246; PDGF_1; 1.

E; PS50278; PDGF_2; 1.

E; PS50278; PDGF_2; 1.

E; PS50278; PDGF_2; 1.

E; PS00246; PDGF_2; 1.

E; PS00246; PDGF_1; 1.

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-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANG
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01-FEB-1996 (Rel.
01-OCT-1996 (Rel.
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P49151;
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                                                                                                                                  CHAIN
                                                                                                                                                     SIGNAL
                                                                                                                                                                     Mitogen;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGENESIS, AND ELCELL GROWTH, INDUCES ENDOTHELIAL PROLIFERATION AND VALUE PERMEABILITY (BY SIMILARITY).

SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX HULDES BUT TRANSIS ASSOCIATED.
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Eutheria; Cetartiodactyla; Suina; Suidae;
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Palisi T.
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PIR; A35987; A35987.
HSSP; P15692; 2VGH.
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-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-CCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                          SEQUENCE
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Mammalia; Eutheria; Rodentia;
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SIMILARITY: BELONGS TO THE PDGF/YEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                         European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBUNIT: HOMODIMER, DISULFIDE-LINKED
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6; Conserv
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PS50273; PDGF_2; 1.
Growth factor; Glyc
                                                                                                                                                                                                                                                                                                                                            requires a license agreement (See an email to license@isb-sib.ch).
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Pred. No. 16;
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N-LINKED (GLCNAC. . .).
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Sciurognathi;
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thi; Muridae;
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                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                characterization. ... regulatory sequences.";
J. Biol. Chem. 271:3877-3883(1996).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
-i- FUNCTION: GROWTH INDUCES ENDOTHELIAL PROLIFERATION !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A.; "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Expression of vascular endothelial growth factor during angiogenesis and endothelial cell differentiation.";
Development 114:521-532(1992).
                                      EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PERMEABILITY.
-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
-!- SUBCELLULAR LOCATION: VEGF-1 AND VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claffey K.P., Wilkison W.O., Spiegelman B.M.;
"Vascular endothelial growth factor. Regulation by cell differentiation and activated second messenger pathways.";
J. Biol. Chem. 267:16317-16322(1992).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING.

TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROID PLEXUS, PARAVENTRICULAR NEUROEPHITHELIUM, PLACENTA AND KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF YEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADDULTS. SIMILARITY: BELONGS TO THE POGF/VEGF FAMILY OF GROWTH FACTORS.
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            A43351;
                                   $37052;
$38083;
$38100;
$95200;
$U41383;
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Chordata; (
                               ; AAB22252.1; -.; AAB22253.1; -.; AAB22254.1; -.; AAA40547.1; -.; CAB35545.1; -.
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SEQUENCE FROM N.A.
MEDLINE, 92231879.
Weindel K., Marme D., Weich H.A.;
"AIDS-associatec Kaposi's sarcoma co
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Best Local Similarity
Matches 6; Conserv
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Connolly D.
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01-APR-1990 (Rel. 14, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation updat
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSO
PERMEABILITY FACTOR) (VPF).
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P15692;
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Mitogen;
SIGNAL
                                                                                                                            Tischer E., Mitchell R., Hartman T., Silva M., Friddes J.C., Abraham J.A.; Triddes J.C., Abraham J.A.; "The human gene for vascular endothelial growt protein forms are encoded through alternative J. Biol. Chem. 266:11947-11954(1991).
                                                                                                                                                                                                                                                                                                         PDGF.
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CARBOHYD
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VARSPLIC
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Eukaryota; Metazoa; (
                                                                                                                                                                                                                                                                                      Science
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PFAM; PF00341; PDGF;
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90069608.
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Primates;
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85.7%;
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growth
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BY SIMILARITY.
VASCULAR ENDOTHELIAL
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wth factor is
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLONG. ..) (PROBAB
K -> N (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-2).
GE -> ER (IN REF. 2).
GE -> ER (IN REF. 2).
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Pred. No. 18;
1; Mismatches
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BY SIMILARITY.
BY SIMILARITY.
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                                     cells
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Homo.
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PRELIMINA...

MEDLINE; 90062112.

MEDLINE; 90062112.

Connolly D.T., Olander J., Leimgrube.

A Siegel N., Haymore B.L., Leimgrube.

A "Human vascular permeability factor. Iso.

Them. 264:20017-20024(1989).
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"The crystal structure of vascular endothelial growth factor (VEGF)
refined to 1.93-A resolution: multiple copy flexibility ~~~ binding.";
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Fairbrother W.J., Keenan C.J., Mer
"Crystal structure of the complex
peptide.";
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the Europuse by modified
                                                This SWI
                                                                                                                                                                                                                                            "Solution structure of the heparin-bi
endothelial growth factor.";
Structure 6:637-648(1998).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN
CELL GROWTH. INDUCES ENDOTHELIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kochs G., Marme D., Hug H., Weich H.A.; Synthesis and assembly of functionally active endothelial growth factor homodimers in insect Eur. J. Biochem. 211:19-26(1993).
                                                                                                                                                                                                                                                                                                                                                                                                              "IH, 13C, and 15N backbone assignment receptor-binding domain of vascular exprotein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE: 97477915.
Fairbrother W.J., Champe M.A.,
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Fiebich B.L., Jaeger
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRUCTURE BY NMR OF 34-135.
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             s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                                                                                              SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                              SIMILARITY).
ALTERNATIVE PRODUCTS:
ALTERNATIVE SPLICING
                                                                                                                                                                              SUBUNIT: HOMODIMER, DISULFIDE-LINKED. SUBCELLULAR LOCATION: SECRETED BUT RETO THE EXTRACELLULAR MATRIX UNLESS RE
                                                                                                                VEGF-189 AND VEGF-215).
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receptor binding site.
. 94:7192-7197(1997).
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Meng G., de Vos A.M.
lex between VEGF and
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, Feder J.;
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PROSITE: PS50273; PDGF_2; 1.
Mitogen; Growth factor; Glycoprotein;
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A40454; A40454;
B40454; B40454;
C40454; C40454;
U01463; J01463;
J01464; J01464;
S17348; S17348;
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RA RUBDITZ JE., MOTTISSEY J., Savage P.A., Cleary M.L.;

RT "ENL, the gene fused with HRX in t(11;19) leukemias, encodes a

RT nuclear protein with transcriptional activation potential in lymphoid

RT nuclear protein with transcriptional activation potential in lymphoid

RT and myeloid cells.";

RL Blood 84:1747-1752(1994).

CC -!- FUNCTION: CAPABLE OF ACTIVATING TRANSCRIPTION FROM SYNTHETIC

CC -!- FUNCTION: CAPABLE OF ACTIVATING TRANSCRIPTION FROM SYNTHETIC

CC -!- FUNCTION: CAPABLE OF ACTIVATING TRANSCRIPTION CELLS.

CC -!- SUBCELLULAR LOCATION: NUCLEAR.

CC -!- SUBCELLULAR LOCATION: NUCLEAR.

CC -!- SUBCELLULAR LOCATION IN ACUTE LEUKEMIAS CAUSING FUSION TO THE TRITHORAX

CC -!- SUBCEASE: INVOLVED IN A T(11:19)(023;P13:3) CHROMOSOMAL

TRANSLOCATION IN ACUTE LEUKEMIAS CAUSING FUSION TO THE TRITHORAX

CC RESULTING IN A ROGUE ACTIVATOR PROTEIN.

CC RESULTING IN A ROGUE ACTIVATOR PROTEIN.

CC -:- SIMILARITY: TO HUMAN AF-9.

CC -:- SIMILARITY: TO YEAST TRANSCRIPTION INITIATION FACTOR TFIIF SMALL

CC SUBUNIT (TFG3/ANC1).
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Best Local Similarity 50.0%;
Matches 6; Conservative
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TRACHUK D.C., KOhler S., Cleary M.L.;

"Involvement of a homolog of Drosophila trithorax by 11q23 chromosomal translocations in acute leukemias.";

Cell 71:691-700(1992).
                                                                                                                                                                                                                                                                                                             Transcription regulation; Activator; Nuclear protein; Chromosomal translocation; Proto-oncogene.

DOMAIN 268 280 POLY-PRO.

DOMAIN 319 325 POLY-SER.

DOMAIN 374 389 POLY-SER.

DOMAIN 457 460 POLY-PRO.
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MIM; 159556;
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01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR-A120.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IShii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
TDevelopmental expression of vascular endothelial growth factor-A
(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 ir
masseter muscle.";
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF215726; AAF19212.1; -.
INTERPRO; IPR00J072; -.
PFAM; PF00J341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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Created)
Last sequence update)
Last annotation update)
FACTOR ISOFORM 121 PRECURSOR.
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Pred. No.
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PFAM; PRO0341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 148 AA.
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01-MAY-1999
01-MAY-1999
01-MAY-1999
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Submitted (JUN-1927) t
EMBL; AF008593; AAB636
HSSP; P15692; 1VPP.
   Candida albicans (Yeast).
Eukaryota; Fungi; Ascomycota;
anamorphic Saccharomycetales;
                                            01-MAY-1999 (TIEMBLIEL.
01-MAY-1999 (TIEMBLIEL.
01-MAY-1999 (TIEMBLIEL.
QUESTIONABLE ORF.
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01-JAN-1998
01-JUN-2000
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042571;
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INTERPRO; IPR000072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; (Amphibia; Batrachia;
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                                                                                                                                              137
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                                                                                                                                                        2 RTKPEKCDKPRR 13
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| : |||||||
                                                                                                                                           KSKQEKCEKPRR 148
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                                                                                                                                                                                 h 64.1%;
Similarity 66.7%;
8; Conservative
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1998 (TremBLrel. 05, I
2000 (TremBLrel. 14, I
R ENDOTHELIAL GROWTH E
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9; Conser
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Batrachia; Anura; Mesobatrachia;
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                                                                                             PRELIMINARY;
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7 AA;
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-1927) to the
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17219 MW;
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75.08;
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e EMBL/GenBank/DDBJ
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Pred. No. 0.3;
3; Mismatches
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1; Mismatches
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      Saccharomycetes; Saccharomycetales; Candida.
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DDF4D6994249BED6 CRC64;
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ia; Pipoidea; Pipidae;
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RA Adams M.D. (Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., RA Adams M.D., Celniker S.E., Li P.W., Hoskins R.A., Galle R.F., RA Adams M.D., Celniker S.E., Richards S., Ashburner M., Henderson S.N., RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., RA Sutton G.G., Wortman J.R., Pandell M.D., Zhang Q., Chen L.X., RA Man K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., RA Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D., RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M., RA Bellew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M., RA Bellew R.M., Basu A., Bouck J., Brockstein P., Brottier P., Brottier P., Borchan B.P., Bhandari D., Bolshakov S., RA Burtis K.C., Busam D.A., Butler H., Cadleu E., Center A., Chandra I., RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P., RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P., RA Doublos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M., RA Glodek A., Gong F., Gorrell J.H., Gu Z., Glubar W.M., Glasser K., RA Glodek A., Gong F., Gorrell J.H., Gu Z., Glubar P., Harris M., Glasser K., RA Glodek A., Gong F., Gorrell J.H., Gu Z., Glubar P., Harris M., Glasser K., RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C., RA Liu X., Mattei E., McIntosh T.C., McLeod M.P., McPherson D., Lai Z., Liang Y., Lin X., RA McKulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A., RA McKulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A., Ra Mount S.M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
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01-MAY-2000
01-JUN-2000
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SEQUENCE FROM N.A.
STRAIN-1161;
Harris I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Drosophila melanogaster (Fruit fly).
Drosophila melanogaster (Fruit fly).
Eukaryota; Metzzoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and gene isolation.";
Fungal Genet. Biol. 21:308-314(1997).
EMBL; AL033391; CAA21939.1; -.
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Tait E., Simon M.C.,
"A Candida albicans
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Submitted (NOV-1998) to 1
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77.8%;
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Pred. No.
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A Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,

A Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,

A Shue B.C., Siden-Riamos I., Simpson M., Skupski M.P., Smith T.,

A Syler E., Spradling A.C., Stapleton M., Strong R., Sun E.,

Sylrskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,

Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,

A Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,

A Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Zhou Q.A.,

A Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,

A Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,

A Ye J., Yeh R.-F., Zaveri J.S., Zhou X., Zhu S., Zhu X., Smith H.O.

A Gibbs R.A., Myers_E.W., Rubin G.M., Venter J.C.;

"The genome sequence of Drosophila melanogaster.";

Science 287:2185-2195(2000).

EMBL, AEO03837, AAF59104.1;

SEQUENCE 1579 AA; 180937 MW; 105057D948C295E1 CRC64;
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Best Local S
Matches 6
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Best Local
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            Q39795;
Q39795;
01-NOV-1996
01-NOV-1996
01-MAY-2000
25 ALBUMIN S
                                                                                                                                                                                                                                                                                                      Galau G.A., Wang H.Y.C., Hughes D.W.;
Submitted (JAN-1992) to the EMBL/GenBank/DDBJ
EMBL; M83301; AAA33049.1; .
MENDEL; 14688; Goshi; 2374;14688.
INTERPRO; IPR001768; -.
                                                                                                                                                                                                                                                                                                                                                                                     Gossypium hirsutum (Upland cotton).
Eukaryota; Viridiplantae; Embryophyta; 1
Magnoliophyta; eudicotyledons; Rosidae;
Malvaceae; Gossypium.
                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996 (TIEMBLIEL. 01, Created)
01-NOV-1996 (TIEMBLIEL. 01, Last sequence update)
01-NAY-2000 (TIEMBLIEL. 13, Last annotation update)
25 ALBUMIN STORAGE PROTEIN PRECURSOR.
                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                           PFAM; PF00234; tryp_alpha_amyl; 1.
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nes 6; Conserv
                                                                                                                                                   1 CRIKPEKCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 KPEKCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RPPKCTKPRR 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 7; Conserv
                                                                                                                                                                                                                                   1
33
64
139 AA;
             6 (TrEMBLrel. 01, Created)
6 (TrEMBLrel. 01, Last sequence update)
0 (TrEMBLrel. 13, Last annotation updat
STORAGE PROTEIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                          Conservative,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13
                                                                                                                                                     13
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59
139
                                                                                                                                                                                     52.6%;
                                                                                                                                                                                                                                    15831 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.1%;
                                                                                                                                                                                                                                                                                                                                                                                                  Embryophyta; Tracheophyta; Spermatophyta; dons; Rosidae; eurosids II; Malvales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 43; DB Pred. No. 34; 1; Mismatches
                                                                                                                                                                          Score 41; DB Pred. No. 9; 2; Mismatches
                                                                                                                                                                                                                                POTENTIAL.
2S ALBUMIN STORAGE PROTEIN.
2S ALBUMIN STORAGE PROTEIN.
43ACF35FE97D19B4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         139
                                                                       139
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                        update)
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Q9VDQ4
ID Q9
AC Q9
DT 01
DT 01
DT 01
DT 01
CG CG
GN CG
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  Drosophila melanogaster (Fruit fly)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      124
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Query Match
Best Local Similarity 54...
"""" 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                           Liang D., Ge R.;

Submitted (APR-1998) to the EI

EMBL; AR059661; AAC14713.1; -

HSSP; P15692; 1VPF.

INTERPRO; IPR000072; -

PFAM; PF00341; PDGF; 1.
Q9VDQ4
Q9VDQ4;
Q9VDQ4;
01-MAY-2000
01-MAY-2000
01-JUN-2000
CG4413 PROTE
CG4413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          073822
073822;
01-AUG-1998
01-AUG-1998
01-JUN-2000
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CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gossypium hirsutum (Upland cott
Eukaryota; Viridiplantae; Embry
Magnoliophyta; eudicotyledons;
Malvaceae; Gossypium.
                                                                                                                                                                                                                                                                                                                                                                                               Brachydanio rerio (Zebrafish)
Eukaryota; Metazoa; Chordata;
Actinopterygii; Neopterygii; T
Cypriniformes; Cyprinoidea; Cy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Signal
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Galau G.A., Wang H.Y.C., Hughes Submitted (JAN-1992) to the EMBI EMBL; M86213; AAA33066.1; — MENDEL; 8406; Goshi, 2374;8406. INTERPRO; IPRO01768; —
                                                                                                                                                                                                                                                       PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 144 AA; 16479 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                VASCULAR ENDOTHELIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                         134 KAKKERCEKPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CRTKPEKCDKPRR 13
                                                                                                                                                        2 RTKPEKCDKP,R
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         PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1,
33,
64
139 b
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3 (TrEMBLrel. 07,
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                         (TrEMBLrel. 13, 0) (TrEMBLrel. 13, 0) (TrEMBLrel. 14,
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                                                                           PRELIMINARY;
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59 2
139 2
15700 MW;
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7
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dons; Rosidae; eurosids II;
                                                                                                                                                                                                                                                                                                                                                                                                sh) (Zebra danio).
ta; Craniata; Verte
i; Teleostei; Eutel
; Cyprinidae; Rasbo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cotton).
                         Created)
Last sequence update)
Last annotation updat
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Last
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                                                                                                                                                                                                        Score 41;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
2S ALBUMIN STORAGE PROTEIN.
2S ALBUMIN STORAGE PROTEIN.
02ACE24FFEC9EF90 CRC64;
                                                                            PRT;
                                                                                                                                                                                                                                                         303E6A7407AA0832 CRC64;
                                                                                                                                                                                            Mismatches
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annotation updat
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                                                                            402
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Euteleostei; Ostariophysi
Rasborinae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BB
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                          update)
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Malvales;
                                                                                                                                                                                                                                                                                                                                                                                                             Ostariophysi;
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RESULT
084688
ID 086
AC 086
DT 01
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DT 01
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RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Burtls K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA Dutbin K.J., Evangelista C.C., Ferrac C., Ferriera S., Fleischmann W.,
RA Dutbin K.J., Evangelista C.C., Ferrac C., Ferriera S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibeywam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Meison D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local :
         Bacteria;
                                                                                                                                                        01-NOV-1998
01-MAY-2000
                                                                                                                                                                                                                                                  084688;
                                                        Chlamydia
                                                                                                                PBP2-TRANSGLYCOLASE/TRANSPEPTIDASE.
                                                                                                                                                                                                                 01-NOV-1998
                                                                                                                                                                                                                                                                                   084688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00028; ZINC_FINGER_C2H2; SEQUENCE 402 AA; 45857 MW; 6BlD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., George R.A., Levis S.E., Richards S., Ashburner M., Henderson S.N., Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D., Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., Warm R.B., Phallaw B. M., An H.-J., Andrews-Pfannkoch C., Baldwin D., Ballawin D., Ballawin D., Ballawin D., Ballawin D., Ballawin D., Ballawin B., R. Ballawin B., An H.-J., Andrews-Pfannkoch C., Baldwin D., Ballawin B., R. Ballawin B., Ballaw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERPRO; IPR000822; -. PFAM; PF00096; zf-C2H2; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FLYBASE; FBgn0038767; CG4413.
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Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   233 KPEKCDRSGR 242
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4 KPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 7; Conserv
                       trachomatis.
Chlamydiales;
                                                                                                                                              (TrEMBLrel.
                                                                                                                                                                                                                 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                PRELIMINARY;
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                                                                                                                                 08, Created)
08, Last sequence update)
13, Last annotation update)
                       Chlamydiaceae; Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 41; DB Pred. No. 23; 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C2H2; 3.
6B1D1D6AA353830A CRC64;
                                                                                                                                                                                                                                                                             1080 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 5;
23;
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RESULT
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Best Local S
Matches 6
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Best Local Similarity
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                                                                    080201
080201;
01-NOV-1998
01-NOV-1998
01-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                         Q9R3N0;
Q9R3N0;
01-MAY-2000
01-MAY-2000
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           [1]
SEQUENCE FROM N.A.
STRAIN=D/UW-3/CX;
SEQUENCE FROM N.A.
Pfister P., Wasserfallen A.,
"Archaeophage PsiM2 complete
                                       HYPOTHETICAL 25.3 KDA PROTEII
Methanobacterium phage psiM2
Viruses; dsDNA viruses, no RI
                                                                                                                                                                                                                                                                  "Complete DNA sequence and structural analysis Escherichia coli adherence factor plasmid."; Infect. Immun. 67:5455-5462(1999). EMBL; AB024946; BAA84884.1; -. EMBL; AB024946; BAA84884.1; -.
                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
Tobe T., Hayashi T.,
Sasakawa C.;
                                                                                                                                                                                                                                                                                                                                                                            Escherichia coli.
Plasmid pB171.
                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                 ORF49 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                            Escherichia.
                                                                                                                                                                                                                                                                                                                                                                     Bacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Genome sequence of an obligate intracellular pathogen of humans: Chlamydia trachomatis."; Science 28:754-759(1998).
EMBL; AB001338; AAC68277.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE; 99000809.
Stephens R.S., Kalman s
Mitchell W.P., Olinger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PFAM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Davis R.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERPRO; IPRO01460;
                                                                                                                                                             84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
les 6; Conserv
                                                                                                                                                                               3 TKPEKCDKPRR 13
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                                                                                                                                                           TOPVKAEKPRR
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                                                         8 (Trimblrel 08, Cre
8 (Trimblrel 08, Las
8 (Trimblrel 08, Las
AL 25.3 KDA PROTEIN.
                                                                                                                                                                                                                                                  216 AA;
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                                                                                                                                                                                                  Conservative
                                                                                                            PRELIMINARY;
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0 AA; 123959 MW;
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                                                                                                                                                                                                                                                  24221 MW;
                                                                                                                                                                                                            51.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                          13,
13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . 0%;
                                                                                                                                                                                                                                                                                                                             C.G.,
                                                                                                                                                                                                                                                                                                                                                                   gamma subdivision; Enterobacteriaceae;
                                       RNA
                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                        Created)
Last sequence update)
Last annotation update)
                                                                                      Created
                                                                                                                                                                                                  2;
                                                                                                                                                                                                            Score 40;
Pred. No.
 Stettler R., Leisinger T., genomic DNA.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 41;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. 53;
2; Mismatches
                                                                                                            PRT;
                                      stage;
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Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musc
Ephydroidea; Drosophilidae; Drosophila.
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216 AA; 2
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Last sequence
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5427B96D463B4929 CRC64;
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Q9SGL4;
01-MAY-2000
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T18K17.20.
                                                                             Federspiel N.A.; Palm C.J., Conway A.B., Conn L., Hansen N.F., Altafi H., Araujo R., Huizar L., Rowley D., Chen S., Harman P., Hicks R., Huerta M., Mason S., Siepel J., Zimmerman M., Buehler Dunn P., Gonzalez A., Kremenetskaia I., Kim C., Lenz C., Li J., Liu S., Luros S., Schwartz J., Shinn P., Toriumi M., Vysotskaia Walker M., Yu G., Ecker J., Theologis A., Davis R.W.; Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Budicotyledons; Rosidae; eurosids II; Brassicales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B., Ronning C.M., Koo H., Fujii C.Y., Utterback T.R., Barnstead M.E., Bowman C.L., White O., Nierman W.C., Fraser C.M.; Bowman C.L., White O., Nierman W.C., Fraser C.M.; "Arabidopsis thaliana chromosome I BAC T18K17 genomic sequence."; Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
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Magnoliophyta; eudicotyledons; Rosidae; eurosids II; Brassicales;
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IT L., Rowley D., Chen S., Haimen.
Lenz C., Li J.,
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ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 C;Accession: $57956 R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, submitted to the EMBL Data Library, July 1995 A;Accession: $57956 A;Accession: $57956 A;Accession: $57956 A;Status: preliminary
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A;Title: Vascular endothelial growth factor: a new member of the platelet-derived g A; Reference number: A33787; MUID:90121225
A;Accession: A33787
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C;Keywords: alternative splicing
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                                                                                                                                                                                                                        A;Molecule type: mRNA
A;Residues: 1-146 <RSD>
A;Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351
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80.0%; Pred. No. 7.1e-07;
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#text_change 05-Nov-1999
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A; NOTE:
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A; Residues: 1-190 <CON>
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Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632,
A;Title: Amino acid and cDNA sequences of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 glioma-derived vascular endothelial cell growth factor -
C; Species: Rattus norvegicus (Norway rat)
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A; Residues: 1-116, 'ER', 119-190 <CLA>
A; Residues: 1-116, 'ER', 119-190 <CLA>
A; Cross-references: GB:M95200; NID:g202350; PIDN:AAA40547.1;
A; Note: sequence extracted from NCBI backbone (NCBIN:110665,
R; Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.;
Growth Factors 4, 53-59, 1990
A; Title: Conditioned medium from mouse sarcoma 180 cells cont
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A;Accession: A61029
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A:Title: Vascular endothelial growth factor. Regulation by c. A;Reference number: A43351; MUID:92355593
A;Accession: A43351
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A; Residues: 1-190 <BRE>
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                                                                                                                                                 Matches
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                                                                                                                                                                                                                                                                                                                                                                                                              Status: preliminary
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                                                                                                                                             Similarity 29.
19; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDNA sequences of a vascular endothelial cell mitogen that is 987; MUID:90207249
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29.7%;
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Pred. No. 0.00014;
1; Mismatches 0
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NCBIP:110675)
Folkman, J.
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                                                                                                Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, A;Title: Isolation of a human placenta cDNA c A;Reference number: A41236; MUID:92021031 A;Accession: A41236; A;Status: proline
                               A; Molecule type: mRNA
A; Residues: 1-149 < MAG>
                                                                                          A; Status: preliminary
                                                                                                                                                                                                                                                                                               placental growth factor precursor -
C;Speckes: Homo sapiens (man)
C;Date: 19-Jun-1992 #sequence_revisi
C;Accession: A41236
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A; Residues: 27-33 <CLA>
R; Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A; Title: Enhanced expression of multiple forms of VEGF
A; Reference number: $52136; MUID:95101726
A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Reference number: A; Accession: S52136
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A; Residues: 1-214 < BRE>
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R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau,
Development 114, 521-532, 1992
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N;Contains: vascular endothelial growth factor-2; vascular permeability fac C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
                                                                                     A; Title: Expression of vascular endothelial growth factor A; Reference number: A44881; MUID:92274860 A; Accession: A44881
PIDN: AAB22252.1;
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PID:g249857
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A;Accessiou: CTU-CARNA
A;Rolecule type: MRNA
A;Molecule type: MRNA
A;Molecule type: MRNA
A;Residues: 1-140,209-214 <BR2>
A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
A;Cross-references: GB:S38100; NID:g249860; PIDN:ACCESSION: 107624, NCDIP:107625)
A;Note: sequence extracted from NCBI backbone (NCBIN:107624, NCDIP:107625)
A;Note: sequence extracted from NCBIN:107625, NCDIP:107625, NCDIP:1076 from NCBI backbone (NCBIN:104677, NCBIP:104678)

A;Status: preliminary
A;Molecule type: protein
A;Molecule type: protein
A;Residues: 27-46 <SUG>
C;Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
C;Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homo
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT> is associated with spontaneous homodim

%; Score 83; DB
%; Pred. No. 0.0
0; Mismatches DB 2; ___ o. 0.00029; o; Length 214 Indels 0 Gaps

0

GB:X54936; NID:g35521; PIDN:CAA38698.1; *sequence_revision 19-Jun-1992 #text_change 05-Nov-1999 G.; Delli-Bovi, P.; coding for a protein related to PID: 935522 Persico, . വ the

vascu

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vascular endothelial growth factor 206 precursor - human N;Alternate names: vascular permeability factor N;Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; C;Species: Homo sapiens (man) C;Date: 28-Aug-1992 #seguence_revision 28-Aug-1992 #text_change 05-Nov-1000 C;Accession: A41551; C41551 - B41551 - D41551
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A;Cross-references:
A;Map position: 14q;
                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 1-232 <HOU1>
                                                                                                                                                                                                                                                                      Mol. Endocrinol. 5, 1806-1814, 1991
A;Title: The vascular endothelial growth factor family: identification of a A;Reference number: A41551; MUID:92168017
                                                                                                                                                                                                                                                                                                                    C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999 C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
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Best Local Similarity
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Residues: 1-190 <SHA>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Species: Sus scrofa domestica (domestic pig)
Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change
                                                                                                           Status: nucleic acid sequence not shown; not compared with conceptual translation
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12; Conservative
A40454
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14q24-14q31
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Pred. No. 0.012;
4; Mismatches
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A;Cross : C. F. A;Map position: 6p21;6p12

A;Map position: bromotes fluid and protein leakage from blood vessels
A;Description: promotes fluid and protein leakage from blood vessels
A;Description: promotes fluid and protein leakage from blood vessels
C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular
F;1-23z/Product: vascular endothelial growth factor 189 precursor #status prof;1-141,227-23z/Product: vascular endothelial growth factor 121 precursor #status prof;1-141,227-23z/Pr
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A; Residues: 1-140, 'N', 227-232 <WE2>
A; Residues: 1-140, 'N', 227-232 <WE2>
A; Experimental source: AIDS-Kaposi's sarcoma
R; Connolly, D.T.; Olander, J.V.; Heuvelman, L
J. Biol. Chem. 264, 20017-20024, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Accession: A34492
A;Molecule type: protein
A;Residues: 27-36;43:49, 'R';72-76,'Q',78-81;59-71 <CON>
C;Comment: The most common of several alternatively spliced
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1 R;Weindel, K.; Marme, D.; Weich, H.A. Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992 A;Title: AIDS-associated Kaposi's sarcoma cells in culture A;Reference number: JQ1463; MUID:92231879
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A; Residues: 1-165, 183-232 <KEC>
A; Cross-references: GB:M27281; L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Title: Human vascular permeability factor. Isolation A; Reference number: N34492; MUID: 90062112
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A;Cross-references: GB:M63971; GB:M63972; GB:M63973;
A;Accession: C40454 ;
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A: Residues: 1-165,183-232
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A;Cross-references:
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A; Residues: 1-140,'N',183-232
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A; Residues: 1-140,'N',183-232 <LEU>
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A; Accession: A40080
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A; Molecule type: DNI
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ivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly,
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A;Reterence number A;Reterence number A;Rocession: A33255
A;Molecule type: protein
A;Residues: 27-31 <FER>
C;Keywords: alternative splicing; glycoprotein
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #status;
F;27-190/Product: carbohydrate (Asn) (covalent) #status
                                                                                                                                       A:Experimental source: strain AB972
R:Repetto, B.; Tzagoloff, A.
Mol. Cell. Biol. 10, 4221-4232, 1990
A;Title: Structure and regulation of KGD2,
A:Reference number: A35654; MUID:90318388
A:Accession: A35654
                        A;Molècule type: DNA
A;Residues: 1-169,'HRKYSPQGKTQVRKRLQR',188,'KLLQR',194,'KPLQR',200,'KLQNQ',206,'RT',209-A;Cross-references: EMBL:M34331; NID:g171782; PIDN:AAA34720.1; PID:g171783
R;Ruecknagel, K.P.; Roffpert, S.
                                                                                                                                                                                                                                                                                                                                                                                dihydrolipoamide S-succinyltransferase (EC 2.3.1.61) precursor - yeast (Saccharomyces N;Alternate names: alpha-ketoglutarate dehydrogenase complex chain KE2; dihydrolipoyl C;Species: Saccharomyces cerevisiae C;Date: 30-Sep-1991 #sequence_revisiae C;Accession: S57975; A35654; S78755; S11195 R;Murphy, L.; Richards, C.; Harris, D. submitted to the EMBL Data Library, July 1995 A;Reference number: S57971 A;Reference number: S57971 A;Recession: S57975
submitted
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A; Residues: 1-463 < MUR>
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Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Title: Pituitary follicular cells secrete a novel heparin-binding growth factor specif
A;Reference number: A33255; MUID:89286596
                                                                                                                                                                                                                                                                                                     A;Cross-references: EMBL:Z50046; NID:g899393;
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A; Residues: 27-190 <TIS>
A; Cross-references: GB: M31836; NID: g163808; PIDN: AAA30804.1;
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A;Accession: B33787
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A; Residues: 1-190 <LEU>
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STIFLE: Vascular endothelial growth factor is a secreted angiogen
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           Sequence Database, March 1999
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3; Mismatches
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A;Status: """ DNA, A;Molecule type: DNA, A;Molecule type: DNA, A;Molecule type: DNA, A;Residues: 1-1786 <\""" VIO>
A;Residues: 1-1786 <\"" VIO>
A;Cross-references: &B:M61951; GB:J02778; NID:g186911; PIDN:AAA;Cross-references: &B:M61951; GB:J02778; NID:g186911; PIDN:AAA;Note: the nucleotice sequence was submitted to GenBank, Febra;Note: the nucleotic sequence was submitted to Gen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Homo sapiens (man)
C;Date: 30-Jun-1991 #sequence_revision 30-Jun-1991 #text_change
C;Accession: S13547; A28483; A26994; S23566
R;Vuolteenaho, R.; Chow, L.T.; Tryggvason, K.
J. Biol. Chem. 265, 15611-15616, 1990
A;Title: Structure of the humainin B1 chain gene.
A;Reference number: $13547; MUID:90368768
A;Accession: S13547
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A;Molecule type: DNA
A;Residues: 1-128 <FLA>
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Dev. Biol. 169, 699-712, 1995
A;Title: Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (flk-1) are
A;Reference number: 151295; MUID:95301109
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C;Species: Phasianidae gen. sp. (quail)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F;72-463/Product: dihydrolipoamide S-succinyltransferase *status experimental <MAT>F;75-148/Domain: lipoyl/biotin-binding homology <LPB>F;114/Binding site: %ipoamide (Lys) (covalent) *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Gene: SGD:KGD2; MIPS:YDR148c
A;Cross-references: SGD:S0002555;
A;Map position: 4R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: GB:S78343; NID:g999147; PID:g999148
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A; Residues: 72-83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F;435,439/Active site: His, Asp #status predicted
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69 CDCRPKKDVKNKQEKKSK 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 46.2%;
61.1%;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 55.5;
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MIPS:YDR148c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
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1.7;
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                                                                                                                 PIDN:AAA59486.1; PID:g186913
nk, February 1991
Shows, T.; Pihlajaniemi, T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 128;
                                                                                                                                                                                                                                                                                                                                                                                                                       shown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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F;923-927/Region: cell attachment
F;950-954/Region: cell attachment
F;950-954/Region: cell attachment
F;976-1025/Domain: laminin-type EGF-like hom
F;1028-1081/Domain: laminin-type EGF-like hom
F;1024-1129/Domain: laminin-type EGF-like hom
F;1139-1176/Domain: laminin-type EGF-like hom
F;1139-1397/Domain: II <DOM2>
F;1179-1397/Region: heptad repeats
F;1398-1430/Domain: alpha <ALP>
F;1431-1786/Domain: I <DOM1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;22-270/Domain: VI <DOM6>
F;271-348/Domain: V <DOM5>
F;271-33/Domain: laminin-type EGF-like hc
F;235-395/Domain: laminin-type EGF-like hc
F;335-395/Domain: laminin-type EGF-like hc
F;468-507/Domain: laminin-type EGF-like hc
F;463-468/Region: cell_attachment
F;463-468/Region: cell_attachment
F;510-540/Domain: laminin-type EGF-like hc
F;510-540/Domain: laminin-type EGF-like hc
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A;Residues: 1-1786 <PIK>
A;Cross-references: GB:M61951; GB:J02778; NID:g186911; PIDN:AAA59486.1; PID:g186913
A;Jaye, M.; Modi, W.S.; Ricca, G.A.; Mudd, R.; Chiu, I.M.; O'Brien, S.J.; Drohan, W.N.
Am. J. Hum. Genet. 41, 605-615, 1987
A;Title: Isolation of a cDNA clone for the human laminin-B1 chain and its gene localiz A;Reference number: A26994; MUID:88021029
A;Accession: A26994; MUID:88021029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A:Gene: GDB:LAMB1

A:Cross-references: GDB:119357; OMIM:150240

A:Map position: 7q31.1-7q31.3

A:Introns: 13/1; 71/3; 117/1; 141/3; 204/3; 226/1; 293/3; 334/1; 397/1; 457/1; 494/3; 526/3; 1513/1; 1582/2; 1629/3; 1688/3; 1742/1

C:Complex: Laminins are trimers of an alpha-type, a beta-type, and a gamma-type laminin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: mRNA
A;Residues: 1276-1469, 'V',1471-1695,'G',1697-1709 <JAX>
A;Residues: 1276-1469, 'V',1471-1695, 'G',1697-1709 <JAX>
A;Cross-references: EMBL:M20206; NID:g186914; PIDN:AAA59487.1; PID:g186915
R;Vuolteenaho, R.; Kallunki, T.; Chow, L.; Ikonen, J.; Pikkarainen, T.; Trj
in Extracellular Matrix Genes, Sandell L.J. and Boyd C.D., eds., pp. 175-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A:Description: interact with cells and with other basement membrane proteins to promote C:Superfamily: laminin beta-1 chain; laminin-type EGF-like homology C:Keywords: basement membrane; calcium binding; cell binding; coiled coil; extracellula: F:1-21/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Title: Genes for the human laminin B1 and B2 chains. A;Reference number: S23566
A;Accession: S23566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Biol. Chem. 262, 10454-10462, 1987
A;Title: Human laminin Bl chain. A multidomain protein with
A:Reference number: A28483; MUID:87280097
A;Accession: A28483
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A; Residues: 762-1786 < VU2>
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                                                                                                                                                                                                                                                        ;30-35/Disulfide bonds: #status predicted
;120,356,519,677,965,1041,1195,1279,1336,1343,1487,1542,1643/Binding site: carbohydrate
;1179,1182,1785/Disulfide bonds: interchain #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;662-668/Region: cell attachment
;773-818/Domain: laminin-type EGF-like homology
;775-1178/Domain: III <DOM3>
                                                                                                                                                                                                                                                                                                                                                                1431-1786/Region: heptad repeats
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        821-864/Domain: laminin-type EGF-like homology <LE07>
867-914/Domain: laminin-type EGF-like homology <LE08>
917-973/Domain: laminin-type EGF-like homology <LE09>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   549-774/Domain: IV <DOM4>
                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     786/Product: laminin beta-1 chain #status predicted <MAT>
                                                                                                                                    Local
1 CECRPKKDRTKPEKCDK 17
                                                                                                 Similarity
9; Conserv
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                                                                                                                                 45.8%;
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                                                                                                                             Score 55; 1
Pred. No. 9
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                                                                                                 Mismatches
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pp. 175-193, Academic
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A;Accession: A;Accession: A;Molecule type: protein
A;Molecule type: protein
A;Residues: 457-466;854-868;932-946 <HAR>
R;Mann, K.; Deutzmann, R.; Timpl, R.
Eur. J. Blochem. 178; 71-80, 1988
A;Title: Characterization of proteolytic f
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A;Residues: 1561-1587 <DEU>
R;Paulason, M.; Deutzmann, R.; Timpl, R.; Dalzoppo, D.; Odermatt, E.; Engel, J.
EMBO J. 4, 309-316, 1985
A;Title: Evidence for coiled-coil alpha-helical regions in the long arm of lami
A;Reference number: S13543; MUID:85257455
A;Recession: S13543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNN A; McMP',1535-1691,'C',1693-1748,'N',1750-1786 <BAR>A; Residues: 1292-1530, MEMP',1535-1691,'C',1693-1748,'N',1750-1786 <BAR>A; Cross-references: EMBL:X05212; NID:952861; PIDN:CAA28839.1; PID:9809042 R; Deutzmann, R.; Huber, J.; Schmetz, K.A.; Oberbaeumer, I.; Hartl, L. Eur. J. Biochem. 177, 35-45, 1988 Eur. J. Biochem. 177, 35-45, 1988 A; Title: Structural study of long arm fragments of laminin. Evidence for 1 A; Reference number: S01790; MUID:89030693 A; Accession: S02036;
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A;Residues: 590-620 <MAN>
R;Barlow, D.P.; Green, N.M.; Kurkinen, M.; Hogan, B.L.M.
EMBO J. 3, 2355-2362, 1984
A;Title: Sequencing of laminin B chain cDNAs reveals C-terminal regions of coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-co
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A;Note: translation in GenBank has additional 48 residues at the amino end R;Fujiwara, S.; Shinkai, H.; Deutzmann, R.; Paulsson, M.; Timpl, R. Biochem. J. 252, 453-461, 1988
A;Title: Structure and distribution of N-linked oligosaccharide chains on various A;Reference number: $02678; MUID:88326259
A;Accession: $02679
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C;Date: 28-Feb-1986 #sequence_revision 30-Jun-1991 #text_change 10-Dec-1999
C;Accession: A26413; $02679; $05326; $14877; A02871; $02036; $13543
R;Sasaki, M.; Kato, S.; Kohno, K.; Martin, G.R.; Yamada, Y.
Proc. Natl. Acad. Sci. U.S.A. 84, 935-939, 1987
A;Title: Sequence of the cDNA encoding the laminin B1 chain reveals a multical Reference number: A26413; MUID:87147212
C;Keywords: basement membrane; calcium binding; cell binding; coiled F;1-21/Domain: signal sequence #status predicted <SIG>F;22-1786/Product: laminin beta-1 chain #status predicted <MAT>
                                                                                                                                                                                                                                                                                           A;Map position: 12 . C;Complex: Laminins are trimers of an alpha-type, a beta-type, and C;Function:
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A; Residues: 28-42;932-946 <FUJ>
R; Hartl L., Oberbaeumer, I.; Do
Eur. J. Biochem. 173, 629-635,
                                                                                                                                                               A; Description: interact with cells and with other basement membrane proteins to C; Superfamily: laminin beta-1 chain; laminin-type EGF-like homology
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A; Residues: 1-1786 <SAS>
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vascular endothelial growth factor homolog A2R, 14.7K - Orf virus
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A;Introns: 137/2
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-188/Product: vascular endothelial growth factor related factor #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:U43837; NID:g1314335; PIDN:AAC52553.1; PID:g1314336 C;Comment: This factor is a mitogen, that is selective for endothelial cells, and belon ar_endothelial growth factors 167 and VEGF 186.
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A;Title: Characterization of the murine VEGF-related factor gene.
A;Reference number: JC4679; MUID:96183052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vascular endothelial growth factor-related factor 167 precursor - mouse
N;Alternate names: VRF 167 protein
C;Species: Mus musculus (house mouse)
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A; Residues: 1-188 < TOW>
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F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicted F;30-35/Disulfide bonds: #status predicted F;30-35/Disulfide bonds: #status predicted F;120,356,519,677,1041,1195,1279,1336,1343,1487,1533,1542,1643/Binding site: carbohydrat
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F;821-864/Domain: laminin-type EGF-like homology <LE07>
F;821-864/Domain: laminin-type EGF-like homology <LE07>
F;817-973/Domain: laminin-type EGF-like homology <LE09>
F;917-973/Domain: laminin-type EGF-like homology <LE10>
F;976-1025/Domain: laminin-type EGF-like homology <LE10>
F;1028-1081/Domain: laminin-type EGF-like homology <LE11>
F;1038-1176/Domain: laminin-type EGF-like homology <LE12>
F;1133-1176/Domain: laminin-type EGF-like homology <LE12>
F;1133-1397/Domain: I < LOMM2>
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;1398-1430/Domain: alpha <ALP>
;1431-1786/Region: heptad repeats
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Best Local :
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122 CECRPKK-KESAVKPDSPR 139
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Similarity 52.9%;
9; Conservative
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57.9%;
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Pred. No. 3.2;
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homology <LE02>
homology <LE03>
homology <LE04>
homology #status atypical <LE05>
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C:Species: Orf virus
C;Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999
C;Accession: B49530 |
R:Lyttle, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.
J. Virol. 68, 84-92, 1994
A;Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus A;Reference number: A49530; MUID:94076465
A;Contents: NZ2
Search completed:
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A;Molecule type: DNA`
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1. 1. 2. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).	CELL GROWTH INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY. PERMEABILITY. 1. SUBGELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY). SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.	FROM N.A. IDNEY; 97117958. L.P., Moor R.M.; Critartion and expression of vascular endothelial VEGF) in the ovine corpus luteum."; VEGF) in the Ovine corpus luteum."; Old. Fertil. 108:157-165(1996).	LAST ANNOTACI GROWTH FACTOR (VPF). hordata; Crani etartiodactyla is.	LT 1 VEGF_SHEEP STANDARD; P50412; 01-OCT-1996 (Rel. 34, Crea

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Palisi T.M., Hope D.A., Thomas K.A.;
"Amino acid and cDNA sequences of a vascular endothelial cell mitogen
that is homologous to platelet-derived growth factor.";
Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633 (1990).
-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
PERMEABILITY.
                                                                                                                 Mitogen;
SIGNAL
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PFAM: PF00341; PDGF: 1.
PROSITE: PS00249; PDGF-1; 1.
PROSITE: PS50278; PDGF-2; 1.
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HSSP; P15692; 2VGH.
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01-AUG-1990 (Rel. 15, Last sequence update)
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VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSO
PERMEABILITY FACTOR) (VPF).
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Mammalia; Eutheria; Rodentia;
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P16612;
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                                                                                                                            PS50278; PDGF_
Growth factor;
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HEPARINE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE CANE GENE. THE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSCCIATION/HEPARIN-BINDING.

HOLD SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROID PLEXUS, PARAVENTRICULAR NEUROSPITHELIUM, PLACENYA AND KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS.

FINILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
the European Bioinformatics Institute. There use by non-profit institutions as long as modified and this statement is not removed. Usentities requires a license agreement (See htt or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _MOUSE
VEGF_MOUSE
                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claffey K.P., Wilkison W.O., Spiegelman B.M.; "Vascular endothelial growth factor. Regulation by cell differentiation and activated second messenger pathways.";
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01-OCT-1996 (Rei 34,
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PERMEABILITY.
SUBUNIT: HOMODIMER, DISULPIDE-LINKED,
SUBCELLULAR LOCATION: VEGF-1 AND VEGF
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VEGF-3 REMAINS CELL-SURFACE ASSOCIATED (
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, Last annotation update)
, GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
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X MEDLINE; 95143284.

X MEDLINE; 95143284.

X Sharma H.S., Tang Z.H., Gho B.C.H., Vergouw.

AT "Nucleotide sequence and expression of the porcine vascutate "nucleotide sequence and expression of the porcine vascutate in "nucleotide sequence and expression of the porcine vascutate in "nucleotide sequence and expression of the porcine vascutate in Siochim. Blophys. Acta 1260:235-238(1995).

CC -i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHE CC CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULATED CC PERMEABILITY (BY SIMILARITY).

CC -i- SUBGUELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO (CONTINUE AND CONTINUE AND CONTI
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VEGF_P
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Best Local
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01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).
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P49151;
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SEQUENCE
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SIGNAL
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Mammalia; I
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INTERPRO; IPR000
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sus scrofa (Pig).
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F00341; PDGF; 1.
FS00249; PDGF_1; 1.
FS50278; PDGF_2; 1.
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BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
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                                                                                                             TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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K -> N (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-2).
MISSING (IN ISOFORM VEGF-2).
GE -> ER (IN REF. 2).
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INTERCHAIN (BY SIMILARITY).
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ISSING (IN ISOFORM VEGF-2).
E -> ER (IN REF. 2).
B5540B51E4BB6E17 CRC64;
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Sus.
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RESULT
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Best Local :
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01-APR-1990 (Rel. 14, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation updat.)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSO:
PERMEABILITY FACTOR) (VPF).
VECF OR VEGFA.
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P15692;
01-APR-1990
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SEQUENCE;
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                                                                 SEQUENCE FROM N.A.

MEDLLNE; 91268072.

Tischer E., Mitchell R., Hartman T., Silv
Fiddes J.C., Abraham J.A.;

"The human gene for vascular endothelial
protein forms are encoded through alterna
                                                                                                                                                                                                                                      Connolly D.T.;
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HSSP; P15692;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                             Science 246:1309-1312(1989)
                                                                                                                                                                                                                                                                                    MEDLINE;
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                                                                                                                                                                                                                                                                                                                                                     mitogen
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                                                                                                                                                                                                                         "Vascular permeability
                                                                                                                                                                                                                                                                                                                                     Science
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 92231879.
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phgF; 1.
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Eutheria;
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2VGH.
                                                     .266:11947-11954(1991).
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Primates;
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25.0%;
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growth
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wth factor
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VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
MM; 04D40B8D7913047F CRC64;
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Connolly D.T., Olander J.V., Heuvelman D., Nelson Siegel N., Haymore B.L., Leimgruber R., Feder J.; "Human vascular permeability factor. Isolation fro J. Biol. Chem. 264:20017-20024(1989).
                                                                                                                                                           "Solution structure of the heparin-binding domain or endothelial growth factor.";
Structure 6:637-648(1998)
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
This SWISS-PROT entry is copyright. It is produced between the Swiss Institute of Bioinformatics and
                                                                                                                                                                                                                                MEDLINE; 98298440.
Fairbrother W.J., Champe M.A.,
Starovasnik M.A.;
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Fairbrother W.J., Keenan C.J., Mer
"Crystal structure of the complex
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Kochs G., Marme D., Hug H., Weich H.A.;
"Synthesis and assembly of functionally
endothelial growth factor homodimers in
                                                                                                                                                                                                                                                                                               "1H, 13C, and 15N backbone assignment and secondary structure of receptor-binding domain of vascular endothelial growth factor."; Protein Sci. 6:2250-2260(1997).
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Starovasnik M.A.;
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PERMEABILITY
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
TO THE EXTRACELLULAR MATRIX UNLESS RE
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ALTERNATIVE PRODUCTS: FO ALTERNATIVE SPLICING OF VEGF-189 AND VEGF-215).
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receptor binding site.";
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1 01-OCT-1996 (Rel. 34, Last annotation update)

2 VASCULAR EMDOTHELIAL GROWTH FACTOR PRECURSOR

1 OTHER PROPERTY FACTOR) (VPF).
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EMBL; M63978; AAA36804 1

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Feirara N., Henzel W.J.;

Feirara N., Henzel W.J.;

Finithary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.";

Biochem. Biophys. Res. Commun. 161:851-858(1989).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL PROLIFERATION AND VASCI
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PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
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PIR; A33787; A33787.
PIR; B40080; B40080.
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                                                                                                                                                                                                           SIGNAL
                                                                                                                                                                                                                     Mitogen;
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PFAM; PF00341; PDGF;
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Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothellal growth factor: a new member
derived growth factor gene family.";
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT REMAINS A
SUBCELLULAR MATRIX UNLESS RELEASED
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187 KPRR 190
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HSSP; P15692; 2VGH.
INTERPRO; IPR000072; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PERMEABILITY.

-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
-!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-CCT-1996 (Rel. 34, Last annotation updat
VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (
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-!- FUNCTION: GROWTH
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Hystricognathi; Caviidae; Cavia.
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RP CHARACTERIZATION, AND SEQUENCE OF 19-24.

RP MEDLINE; 95014370.

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RA PAIK J.E., Chen H.H., Winer J., Houck K.A., Feirara N.;

RA PAIK J.E., Chen H.H., Winer J., Houck K.A., Feirara N.;

RA PAIK J.E., Chen H.H., Winer J., Houck K.A., Feirara N.;

RA PAIK J.E., Chen H.H., Winer J., Houck K.A., Feirara N.;

RA PAIK J.E., Chen H.H., Winer J., Houck K.A., Feirara N.;

RA PICTURE THE ACTOR OF UNIXON PROCESSION OF RECEPTOR CO., FUNCTION. GROWTH FACTOR OF UNKNOWN FUNCTION. BINDS TO RECEPTOR CO., FUNCTION. GROWTH FACTOR OF UNKNOWN FUNCTION. BINDS TO RECEPTOR CO., FUNCTION. GROWTH FACTOR OF LOW LEVELS OF VEGF.

CC., SUBCELLULAR LOCATION. GROTH FORMS ARE SCREETED BUT THE LONGER FORM CO.

CC. APPEARS TO REMAIN CELL ATTACHED UNLESS RELEASED BY HEPARIN. IT CO., FUNCTION FOR THE LONGER FORM LEVELS.

CC. ARE PRODUCED BY ALTERNATIVE SPILICING. PLGF-1 DIFFERS FROM PLGF-2 CO.

CI ALTERNATIVE PRODUCTS: 2 ISOFORMS, PLGF-1 DIFFERS FROM PLGF-2 IN LACKING A 21 RESIDUES SEGMENT IN THE C-TERMINAL SECTION WHICH CO., FUNCTION FILED FORMS ARE PRESENT IN MOST PLACENTAL CO.

CACTS AS A CELL RETENTION SIGNAL.

CC. TISSUES, THE LONGER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL CO. AND ONLY THE SHORTER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL CO. AND ONLY THE SHORTER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL CO. AND ONLY THE SHORTER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL CO. AND ONLY THE SHORTER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL CO. AND ONLY THE SHORTER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL CO. C. CALTON ON C. C. C. CALTON 
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01-OCT-1996
01-OCT-1996
01-OCT-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "A neparin-binding form of placenta growth factor (PIGF-2) expressed in human umbilical vein endothelial cells and in placenta.";
                              EMBL;
                                                                          EMBL;
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Proc. Natl. Acad. Sci. U.S.A. 88:9267-9271(1991)
                                                                                                                                                                                      the European Bioinformatics Institute. The use by non-profit institutions as long a modified and this statement is not removed.
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SIMILARITY:
                       ; X54936; CAA38698.1;
; A18411; CAA01393.1;
;; S72960; AAB30462.2;
; P15692; IVPF.
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                                                                                                                                       requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
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(Rel. 34, Last sequence update)
(Rel. 40, Last annotation update)
DWTH FACTOR PRECURSOR (PLGF-1/PLGF-2).
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Primates;
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P19262;
01-NOV-1990 (Rel. 16, Created)
01-FEB-1996 (Rel. 33, Last sequence upda 30-MAY-2000 (Rel. 39, Last annotation upon properties of the proper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INTERPRO; IPRO00072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF—1; 1 PROSITE; PS50278; PDGF—2; 1 Mitogen; Growth factor; Gly
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PROSITE;
PROSITE;
                                                                                                                                                                              Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: THE 2-OXOGLUTARATE DEHYDROGENASE COMPLEX CATALYZES THE OVERALL CONVERSION OF 2-OXOGLUTARATE TO SUCCINYL-COA & CO(2), IT CONTAINS MULTIPLE COPIES OF 3 ENZYMATIC COMPONENTS: 2-OXOGLUTARATE DEHYDROGENASE (E1), DIHYDROLIPOAMIDE SUCCINYLTRANSFERASE (E2) & LIPOAMIDE DEHYDROGENASE (E3).
-!- CATALYTIC ACTIVITY: SUCCINYL-COA + DIHYDROLIPOAMIDE = COA + S-SUCCINYLDIHYDROLIPOAMIDE
-!- COFACTOR: THE E2 COMPONENT CONTAINS ONE COVALENTLY-BOUND LIPOYL COFACTOR:
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SIGNAL 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        dihydrolipoyl transsuccinylase.";
Mol. Cell. Biol; 10:4221-4232(1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Repetto B., Tzagoloff A.; "Structure and regulation of KGD2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycetes;
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                                                                         INDUCTION: TRANSCRIPTIONALLY REGULATED BY THE HAP2 AND HAP3 PROTEINS. SIMILARITY: BELONGS TO THE 2-OXOACID DE SIMILARITY: CONTAINS 1 LIPOYL-BINDING I
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                                            SWISS-PROT
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Pred. No.
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BY SIMILARITY.
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N-LINKED (GLCNAC. . .) (POTENTIAL).
MISSING (IN ISOFORM PLGF-1).
D -> N (IN REF. 1).
E47639AC59C0963F CRC64;
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INTERCHAIN (BY SIMILARITY).
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                                                                                                       2-OXOACID DEHYDROGENASE
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C 2.3.1.61) (E2)
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Matches
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P52582; Q91420;
01-OCT-1996 (Rel
15-JUL-1998 (Rel
15-DEC-1998 (Rel
"Overaxpression of vascular endothelial growth factor in the embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formatibev. Biol. 171:399-414(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                           CONFLICT
CONFLICT
SEQUENCE
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BINDING
ACT_SITE
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or send a
                                                                                                                   SEQUENCE FROM N.A.
SPECIES-CHICKEN; TISSUE-HEART;
Takahashi T.;
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EMBL; Z50046; CAA90371.1; -.
PIR; S11195; XUBYSD.
HSSP; P10802; 1EAE.
                                                     SPECIES=C.C.JAPONICA;
MEDLINE; 96005007.
Flamme I., von Reuter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PFAM; PF00198; 2-oxoacid_dh; 1. PFAM; PF00364; biotin_lipoyl; 1. PROSITE; PS00189; LIPOYL; 1.
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INTERPRO; IPR001078; -.
INTERPRO; IPR003016; -.
                                                                                                                                                                       Archosauria;
                                                                                                                                                                                  Eukaryota; Metazoa;
                                                                                                                                                                                              Coturnix
                                                                                                                                                                                                       Gallus
                                                                                                                                                                                                                           PERMEABILITY FACTOR)
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                                                                                    SEQUENCE FROM N.A
                                                                                                         Submitted (FEB-1998)
                                                                                                                                                                                                                                       VASCULAR
                                                                                                                                                                                                                                                                                                                                            195 EAAPKKEVTEPKKADOPKK 213
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                                                                                                                                                                                                      gallus (Chicken),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d and this statement is not removed. Usage by and for commercial s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                        Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sis; Transferase; Acyltransferase; Lipoyl; Mitochondrion; peptide; Repeat.
                                                                                                                                                                                                                                996 (Rel. 34, Created)
998 (Rel. 36, Last sequence update)
998 (Rel. 37, Last annotation update)
ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                               coturnix japonica (Japanese quail).
a; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                         441
460
463
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A
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463
50430
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                                                                         TISSUE-EMBRYO;
                                                                                                         the EMBL/GenBank/DDBJ databases
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                                                                                                                                                                                                                                                                                                                                                                                       Score 57; DB Pred. No. 0.546; Mismatches
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DIHYDROLIPOAMIDE SUCCINYLTRANSFERASE
COMPONENT OF 2-OXOGLUTARATE DEHYDROGI
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EAVT -> EKLLS (IN REF. 1

LLW -> CCYGDLKFAAHTNLIS

C06FEB1DE385AE19 CRC64;
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0.54;
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Best Local :
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LMB1_HUMAN
P07942;
01-AUG-1988
01-AUG-1988
15-JUL-1999
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DISULFID
CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Flamme I., Breier G., Risau W.;

"Vascular endothelial growth factor (VEGF) and VEGF receptor (flk-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo.";

Dev. Biol. 169:699-712(1995).
                       01-AUG-1988 (Rél. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
15-JUL-1999 (Rél. 38, Last annotation update)
LAMININ BETA-1 CHAIN PRECURSOR (LAMININ B1 CHAIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AB011078; BAA24925.1; -. EMBL; S79680; AAB35371.1; -. HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 60-187 FROM SPECIES=C.C.JAPONICA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <del>-</del>; -;
Homo sapiens (Human).
              LAMB1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     :
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                                                                                                                                                                   128
                                                                                                                                                                1 CECRPKKD-RIKPERCDK 17
|:||||| : | | | |
28 CDCRPKKDVKNKQEKKSK 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CEI RETENTION SIGNAL.

TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART AND LIVER. IN KIDNEY GLOMERULI, BRAIN AND YOLK SAC, VEGF-166 FORM IS 5- TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS EXPRESSED EARLY AT DAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190 FORM IS DETECTABLE ONLY FROM DAY 2.
SIMILARITY; BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146
166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF
GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION
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                                                                                                                                                                                                                                        Similarity
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83
83
87
77
77
101,
142,
143,
166
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                                                                                               'STANDARD;
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25203
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216
128
130
130
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166
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61.18;
                                                                                                                                                                                                                                                                                              MW;
                                                                                                                                                                                                                        2;
                                                                                                                                                                                                                                    Score 55.5; DB Pred. No. 0.43;
                                                                                                                                                                                                                                                                                             MISSING (IN ISOFORM VEGF-146)
82E669C2F6FC6DA7 CRC64;
                                                                                                                                                                                                                                                                                                                                                    N-LINKED (GLCNAC. . .) (POTENTIAL).
K -> N (IN ISOFORM VEGF-166).
                                                                                                                                                                                                                                                                                                                        MISSING (IN ISOFORM VEGF-166).
F -> L (IN ISOFORM VEGF-146).
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INTERCHAIN (BY SIMILARITY)
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AS A CELL
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MEDLINE: 90368768.

Wuolteenaho R., Chow L.T.
"Structure of the human 1.
J. Biol. Chem. 265:15611-
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Pihlajaniemi T., Saraste M
"Human laminin Bl chain. A
locus in the q22 region of
J. Biol. Chem. 262:10454-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: BIDDING TO CELLS VIA A HIGH AFFINITY RECEPTOR, LAMININ IS THOUGHT TO MEDIATE THE ATTACHMENT, MIGRATION, & ORGANIZATION OF CELLS INTO TISSUES DURING EMBRYONIC DEVELOPMENT BY INTERACTING WITH OTHER EXTRACELLULAR MATRIX COMPONENTS.

-! SUBUNIT: LAMININ IS A COMPERX GLYCOPROTEIN, CONSISTING OF THREE DIFFERENT POLYPEPTIDE CHAINS (ALPHA, BETA, GAMMA), WHICH ARE BOUND TO EACH OTHER BY DISULFIDE BONDS INTO A CROSS-SHAPED MOLECULE COMPRISING ONE LONG & THREE SHORT ARMS WITH GLOBULES AT EACH END. THE BETA-1 CHAIN IS A SUBUNIT OF LAMINININ'.

-! SUBCELLULAR LOCATION: EXTRACELLULAR.

-! SUBCELLULAR LOCATION: EXTRACELLULAR.

-! SUBCELLULAR LOCATION: EXTRACELLULAR.

-! SUBCELLULAR LAMININ OWAINS I AND II ARE THOUGHT TO INTERACT WITH OTHER LAMININ CHAINS TO FORM A COILED COIL STRUCTURE.

-! DOMAIN: THE ALPHA-HELICAL DOMAINS I AND II ARE THOUGHT TO INTERACT WITH OTHER LAMININ CHAINS TO FORM A COILED COIL STRUCTURE.

-! SIMILARITY: CONTAINS 1 LAMININ N-TERMINAL DOMAIN VI).

-! SIMILARITY: CONTAINS 1 LAMININ BGF-LIKE DOMAINS.

-! SIMILARITY: CONTAINS 1 LAMININ DOMAIN IV.
                                                                                                                                                                                                                                                                                                                                                                                                                     use by non-profit institutions as lone modified and this statement is not remove entitles requires a license agreement (so or send an email to license@isb-sib.ch).
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          s SWISS-PROT entry is copyright. It is produced through a collaboratic ween the Swiss Institute of Bioinformatics and the EMBL outstation European Bioinformatics Institute. There are no restrictions on it by non-profit institutions as long as its content is in no was
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chow L.T., Tryggvason K. the human laminin B1 chain 265:15611-15616(1990).
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IN EGF-LIKE 3.

IN EGF-LIKE 4.

IN EGF-LIKE 5 (INCOMPLETE).

IN DOMAIN IV.
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Drohan W.N.;

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"Isolation of a cDNA gene localization."; Am. J. Hum. Genet. 41

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MEDLINE; 87147212.
Sasaki M., Kato S., Kohno K., Martin G.R.,
"Sequence of the cDNA encoding the laminin
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R HSSP; P03069; IZIM.

R HSSP; P03069; IZIM.

R INTERPRO; IPR002561; -.

R INTERPRO; IPR002049; -.

R INTERPRO; IPR002049; -.

R INTERPRO; IPR002049; -.

R PFAM; PF00055; Iaminin_EGF; 13.

R PFAM; PF00055; Iaminin_EGF; 13.

R PFAM; PF00055; Iaminin_EGF; 1.

R PFAM; PF00055; EGF_1; 9.

R PROSITE; PS01186; EGF_2; 2.

R PROSITE; PS01186; EGF_2; 2.

R PROSITE; PS01243; LAMININ_TYPE_EGF; 11.

W Caminin EGF-11k4 domain; Cell adhesion; Repeat; Signal.
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"Cloning of the endothelium.";
Eur. J. Biochem
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EXI. J. BIOChém. 246:727-735(1997).

- IF TWOCTION: BINDING TO CELLS VIA A HIGH AFFINITY RECEPTOR, LAMININ IS THOUGHT TO MEDIATE THE ATTACHMENT, MIGRATION, & ORGANIZATION OF CELLS INTO TISSUES DURING EMBRYONIC DEVELOPMENT BY INTERACTING WITH OTHER EXTRACELLULAR MATRIX COMPONENTS.

- ISUBUNIT: LAMININ IS A COMPLEX GLYCOPROTEIN, CONSISTING OF TRREE BUFFERENT POLYPEPTIDE CHAINS (ALPHA, BETA, GAMMA), WHICH ARE BOUND TO EACH OTHER BY DISULFIDE BONDS INTO A CROSS-SHAPED MOLECULE COMPRISING ONE LONG & THREE SHORT ARMS WITH GLOBULES AT EACH END. THE BETA-1 CHAIN IS A SUBUNIT OF LAMININ-1 (EHS LAMININ), LAMININ-1 (MEROSIN), AND LAMININ-6 (K-LAMININ).

- INSUE SPECIFICITY: FOUND IN THE BASEMENT MEMBRANES (MAJOR COMPONENT).
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"Sequencing of laminin B c
coiled-coil alpha-helix.";
EMBO J. 3:2355-2362(1984).
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-:- SIMILARITY: CONTAINS 1 LAMININ N-TERMINAL DOMAIN (DOMA
-:- SIMILARITY: CONTAINS 12.5 LAMININ EGF-LIKE DOMAINS.
-:- SIMILARITY: CONTAINS 1 LAMININ DOMAIN IV.
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ALB/C; TISSUI
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Acad. Sci. U.S.A. 84:935-939(1987).
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A Grimmond S., Langer D., Canada A Pollock P., Gotley D., Canada A Hayward N., Weber G.;
RT "Cloning and characterization of a novel numerous rescular endothelial growth factor.";
RT vascular endothelial growth factor.";
RT Genome Res. 6:124-131(1996).
RT Genome Res. 6:124-131(1996).
RT GENOTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINE PROPERTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINE PROPERTION ALSO FOR TANGENT AND ASSOCIATION ASSOCIATION AND ASSOCIATION AND ASSOCIATION AND ASSOCIATION ASSOCIATION ASSOCIATION AND ASSOCIATION ASSOCIATION AND ASSOCIATION ASSO
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INTERPRO; IPRO00072; -. PFAM; PE00341; PDGF; 1. PROSITE; PS00249; PDGF_1; 1 PROSITE; PS50278; PDGF_2; 1 Mitogen; Growth factor; Sig SIGNAL 1 188 SEQUENCE 188 AA; 21261 M
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Proc. Natl. Acad. Sci. U.S.A. 93:25;
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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EMBL; U43369; AAA91463.1;
HSSP; P15692; IVPF.
MIM; 601398; -
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SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.
TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.
HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ween the Swiss Institute of Bioinformat. European Bioinformatics Institute. Them by non-profit institutions as long a fifed and this statement is not removed. It is requires a license agreement (See leand an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
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ENDOTHELIAL GROWTH FACTOR
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        POTENTIAL.
VASCULAR ENDOTHELIAL GROWTH FACTOR
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RESULT 14
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01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VASCULAR ENDOTHELIAL GROWTH FACTOR BELATED PROTEIN) (VRF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VEGEB OR VRF.
Mus musculus (Mouse).
Mus musculus (Motazoa; Chordata;
Eukaryota; Metazoa; Rodentia;
     CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Townson S., Lagercrantz J., Grimmond S., Silins G., Nordenskjoeld M., Weber G., Hayward N.K.;

"Characterization of the murine VEGF-related factor gene.";

Biochem. Biophys. Res. Commun. 220:922-928(1996).

-!- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.

-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER
                                                                                                                                                                                                                                                 EMBL; U48800; AAB06273.1;
EMBL; U43837; AAC52553.1;
HSSP; P15692; 2VGH.
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-i- TISSUE SPECIFICITY: ABUNDANTLY EXPRESSED IN HEART, BRAIN, KIDNEY
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                                                           SIGNAL
                                                                                                                 PROSITE;
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  MGI:1061ys, ...

ERPRO; IPRO00072; ...
AM; PF00341; PDGF; 1.
OSITE; PS00249; PDGF_1; 1.
OSITE; PS50278; PDGF_2; 1.
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ILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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  VASCULAR ENDOTHELIAL GROWTH D52A055FB995E9CA CRC64;
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; Murinae; Mus
                                  FACTOR
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Query Match

43

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P52584;
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -!- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
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01-OCT-1996 (Rel. 34, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
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J. Virol. 68:84-92(19
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MEDLINE; 94076465.
Lyttle D.J., Fraser K.M., Fleming
"Homologs of vascular endothelial
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CDCRPRETTTPPTTTRPPRR
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PS50279; PDGF_2; 1.
Growth factor; Glycoprotein;
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCHAC. . .) (POTENTIAL).
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Perfect score:
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Gapop 10.0 , Gapext 0.5
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120
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sp_rodent:*
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sp_phage:*
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O99xy6 rattus norv
Q9uh58 homo sapien
O42571 rattus norv
C99x97 rattus norv
Q9y39 spalax leu
O99x39 spalax leu
O73822 brachydanio
O9x56 canis famil
O75875 homo sapien
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O75875 homo sapien
O9x56 canis famil
O60720 homo sapien
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O9x56 bomo sapien
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O9x548 bos taurus
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47	47	47	47	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	49.5	49.5	49.5	49.5	50	50	50.5	50.5	51	51	51	52	53	53.5
39.2	39.2	39.2	39.2	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	41.2	41.2	41.2	41.2	41.7	41.7	42.1	42.1	42.5	42.5	42.5	43.3	44.2	44.6
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Q9ZS85	Q23773	Q63434	035485	Q94438	Q9QY50	095631	042140	009118	042203	013128	088911	Q94446	Q9TVQ2	000634	054881	Q83927	Q9STN7	042572	P79199	Q64290	Q23765	Q23779	057484	Q16528	Q9VH54
Q9zs85 arabidopsis	Q23773 chironomus	Q63434 rattus norv	O35485 rattus norv	Q94438 chironomus	Q9qy50 mus musculu	O95631 homo sapien			O42203 brachydanio		O88911 rattus norv	Q94446 chironomus	Q9tvq2 caenorhabdi	3			Q9stn7 arabidopsis	042572 xenopus lae	P79199 ovis aries	Q64290 mus musculu		\sim	4		Q9vh54 drosophila

ALIGNMENTS

RESULT Q9UH58 ID Q AC Q DT 0 DT 0 DT 0	Matcl Matcl Qy	SQ	2222	RRRRRR	R OOS E T T T	RESULT Q9QXG6 ID Q AC Q
IT 2 09UH58 PRELIMINARY; PRT; 147 AA. 09UH58; 01-MAY-2000 (TrimbLrel. 13, Created) 01-MAY-2000 (TrimbLrel. 13, Last sequence update) 01-JUN-2000 (TrimbLrel. 14, Last annotation update) vascular endothiblial growth factor isoform 121 precursor.	LOCAL SIMILATICY TO CONSERVAT 1 CECRPKKDRTXPEKCI	EQUENCE 146 AA; 17161 MW; AF92979C3 y Match 100.0%; Score 120;	EMBL; AF215726; AAF19212.1; "INTERPRO; IPRO03072; PFAM; PF00341; PDGF; 1. PROFILE; PSG0243; PDGF; 1.	SEQUENCE FROM N.A. SEQUENCE FROM N.A. Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.; "Developmental expression of vascular endothelial growth factor-A (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat masseter muscle." Submitted (DEC-1999) to the EMBI/GenBank/DDRJ databases	01-MAY-2000 (TTEMBLEel. 13, Created) 01-MAY-2000 (TTEMBLEel. 13, Last sequence update) 01-JUN-2000 (TTEMBLEel. 14, Last sequence update) 01-JUN-2000 (TTEMBLEEl. 14, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR-A120. Rattus norvegicus (Rat). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Bukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Murinae; Rattus.	1 9QXG6 PRELIMINARY; 9QXG6;

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                  Q63672; Q63882;
Q1-NOV-1996 (TEMBLTel. 01, C
Q1-NOV-1998 (TEMBLTel. 08, L
Q1-MAY-2000 (TEMBLTel. 13, L
VASCULAR ENDOTHELIAL GROWTH F.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
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Best Local
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Submitted (DEC-1999) to the E
EMBL; AF214570; AAF19659.1; -
INTERPRO; IPR00072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
           Mammalia;
                                                                                            Q63672
                                                                                                                                                                                                                                      INTERPRO; IPRO00072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF; 1. PRODOM; PD001629; -; 1. SEQUENCE 148 AA; 17234 MW;
                                                                                                                                                                                                                                                                                          Cleaver O., Tonissen K.F., S
Submitted (JUN-1997) to the
EMBL; AF008593; AAB63679.1;
HSSP; P15692; IVPP.
                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                          xenopodinae;
                                                                                                                                                                                                                                                                                                                                                                                        Xenopus laevis (African clawed frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Signal.
                                                                                                                                              128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia;
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                                                                                                                                                        1 CECRPKKD-RTKPEKCDKPRR
                                                                                                                                                                                                            Match
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                                                                                                                                             CECRPKKEVKSKQEKCEKPRR
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                                                                                                                                                                                     l Similarity 71:
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         Eutheria;
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147 i
                                                                                           PRELIMINARY;
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        Chordata;
Rodentia;
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17219
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Primates;
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71.48;
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                                   , Created)
, Last sequence update)
, Last annotation update
H FACTOR (VEGF188) (FRAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WW;
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                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                              Saha M.S., Krieg P.A.;
e EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                    Score 86.5; In Pred. No. 1.2e
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Last annotation updat
FACTOR 122
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     Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rat
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Pred.
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DDF4D6994249BED6 CRC64;
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No. 3.
                                                                                         102
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                                                                                         A
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.2e-08;
                                                                                                                                                                                                        DB 13;
                                               update)
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                                    (FRAGMENT).
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                                                                                                                                                                                                       Length
                                                                                                                                                                                    Indels
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RESULT
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Best Local Similarity 100
Matches 14; Conservative
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Best Local :
                                                                                                                                                                                           Submitted (DEC-1999) to the EMB EMBL; AF215725; AAF19211.1; -. INTERPRO; IPRO00072; -. PEAM; PE00341; PDGF; 1. PROSITE; PS00245; PDGF; 1. SEQUENCE 214 AA; 25239 MW;
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Q9QXG7;
Q9QXG7;
Q1-MAY-2000 (TrEMBLrel. 13, C.
Q1-MAY-2000 (TrEMBLrel. 13, L.
Q1-JUN-2000 (TrEMBLrel. 14, L.
VASCULAR ENDOTHELIAL GROWTH F.
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STRAIN-CD; TISSUE-LUNG;
Kim I., Ryan A., Rohan R., A
Miller J., Adamis A.P.;
Submitted (MAY-1998) to the
[2]
                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

IShii H., Arakava T., Okayama M.,
"Developmental expression of vascu
(VEGF-A) splicing variants, VEGF-A
masseter muscle.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
    127
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"Expression of vascular endothelial growth factor endothelial cells from brain microvessels.";

Biochem. Blophyst Res. Commun. 194:799-803(1993).

EMBL; AF062644; AAC15448.1; -.

EMBL; L2091; AAA42334.1; -.

EMBL; S6431; CAB32322.1; -.

HSSP; P1592; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 29-52 FROM N.A.
STRAIN-SPRAGUE-DAWLEY; TISSUE-BRAIN;
Yakovlev A.G., Faden A.I.;
Submitted (JUL-1993) to the EMBL/Gen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 29-51
MEDLINE; 93343939
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  CECRPKKDRTKPEK
                            CECRPKKDRTKPEK 14
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.692; 2VGH.

.741; PDGF; 1.

.741; PDGF; 1.

.741; 12163 M
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140
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                                                                                                         69.2%;
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100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MW;
                                                                                                                                                                                                                                                                                                                                                ma M., Oota I., Takuma T., Inomata K.; f vascular endothelial growth factor-A VEGF-A188, VEGF-A164, and VEGF-A120 i
                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Aquilar S.,
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Last annotation updat
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                                                                                                           Score 83;
Pred. No
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Pred. No. 2.8e-05;
0; Mismatches 0;
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                                                                                                         .3e-05;
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; Murinae; Rat
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RESULT 6
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PRELIMINARY;

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Matches 17; Conser
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O1-MAY-2000 (TIEMBLIEL. 13, Cr.
O1-MAY-2000 (TIEMBLIEL. 13, La
O1-JUN-2000 (TIEMBLIEL. 14, La
VASCULAR ENDOTHELIAL GROWTH F.
                                                                                                        HSSP; P15692; 1VPF.
INTERRRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 144 AA; 16479 M
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[1]
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01-AUG-1998 (TIEMBLrel. 07,
01-AUG-1998 (TIEMBLrel. 07,
01-JUN-2000 (TIEMBLREL. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
"Adaptive hypoxic tolerance in the subterranean mole
ehrenbergi: the role of vascular endothelial growth f
FEBS Lett. 452:133-140(1999).

EMBL; AF186236; AAD56245.1;
-
INTERPRO; IFR000072; -
PFAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.
                                                                                                                                                                   Liang D., Ge R.;
Submitted (APR-1998) to the
EMBL; AF059661; AAC14713.1;
HSSP; P15692; 1VPF.
                                                                                                                                                                                                                                          Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
Cypriniformes; Cyprinoidea; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. MEDLINE; 99313148. Avivi A., Resnick
                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
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              1 CECRPKKD-RTKPEKCDKPR 19
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CECRPKAEVKAKKERCEKPR
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12; Conserv
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Last annotation updat
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Pred. No. 0.00
4; Mismatches
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Best Local Similarity
Matches 12; Conserv
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Submitted (Mar. 1999) to the E
EMBL; AR133248; AAD39682.1; -
INTERPRO; IPRO00072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 190 AA; 22292 MW;
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Q9Y6S8;
01-NOV-1999
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01-NOV-1999 (TremBLrel. 12,
01-NOV-1999 (TremBLrel. 12,
01-JUN-2000 (TremBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
TISSUE-HEART;
                                                                                                                                                                                                                                                            Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                     Q9XSF3
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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Loretz C., Lasky S., Madan &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                    128 CECRPLREKMKPERCGDAVPRR
                                     187 KPRR
                                                       17 KPRR 20
         10
                                                                                             1 CECRPKKDRTKPE---
                                                                                                                                                                                                                                                                                                                                                                                                              1 CECRPKKDRTKPEKCDK--PRR
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                                                                         CECRPKKDRARQENPCGPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD
                                     190
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                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 58.3%;
                                                                                                                        57.5%;
25.0%;
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Last annotation update)
FACTOR 164.
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Last sequence update)
Last annotation update)
                                                                                                               Score 69; DB Pred. No. 0.00 2; Mismatches
                                                                                                                2;
                                                                                                                                                                                                        EMBL/GenBank/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                        4;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 70; DB
Pred. No. 0.00
4; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Abbasi N., I
A., Prescott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                     PRT;
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                                                                                                                                                                2053500BC9085CE0
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                                                                                                                         DB 6;
0.0054;
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0.0031;
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Ratcliffe A., Sh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        databases.
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                                                                                                                                  Length 190
                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                              Euteleostomi; Canis.
                                                                                                                44;
                                                                                               ---KCD 16
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Q9XT61
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Best Local S
Matches 11
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Best Loc
Matches
F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9XT61;
Q9XT61;
01-NOV-1999 (Tremblrel
01-NOV-1999 (Tremblrel
01-NOV-1999 (Tremblrel
01-MAY-2000 (Tremblrel
VASCULAR ENDOTHELIAL G
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Abrams K.R., Lee S.W., Detmar M.;
"Identification of a human VPF/VEGF 3' untranslated region mediating
hypoxia-induced mRNA stability.";
Mol. Biol. Cell 9:469-481(1998).
EMBL; AF022375; AAC63143.1; -.
HSSP; P15692; 1VPP.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PFAM; PF00341; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 191 AA; 22320 MW; B5E435838C72715B CRC64;
                                                                                                                                                                                                 PFAM; PF
                                                                                                                                                                                                                                                                                                       eyes."
                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                    EMBL;
                                                                                                                                                                                                                                                                                                                                                                Kim I.K., Ryan A.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Macaca fascicularis (Crab eating macaque) (Cynomolgus monk
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                       EMBL; AF106942; AAD20589.1;
INTERPRO; IPR000072; -.
                                                                                                                                                                                                                                                                                 Submitted (NOV-1998) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEGF.
                                                                                                                                                                                                                                                                                                                                                                                      rissue-Lung;
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                     damis A.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VASCULAR ENDOTHELIAL GROWTH FI
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                           Constitutive expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        128
1 CECRPKKDRTKPEK 14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CECRPKKDRARQENPCGPCSERRKHLFVQDPQTCKCSCKNTHSRCKARQLELNERTCRCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KPRR 20
                                                                                                                                                                                                               PF00341; PDGF;
                                                               Similarity 78.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity 25.
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                                                                                                                                                                           102 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ) (TrembLrel: 12, () (TrembLrel: 12, I) (TrembLrel: 13, I) (TrembLrel: 13, I) (TrembLrel: GROWTH I)
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                                                                                                                                                                           12065 MW;
                                                                                        55.8%;
78.6%;
                                                                                                                                                                                                                                                                                                                                                                Rohan R.,
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25.0%;
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14,
                                                                                                                                                                                                                                                                                                                      of VEGF,
                                                                  Score 67; DB
Pred. No. 0.00
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation updat
FACTOR (FRAGMENT).
                                                                                                                                                                                                                                                                            EMBL/GenBank/DDBJ
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
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Catarrhini;
                                                                                                                                                                     5F2D1A765DC29E02 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
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                                                                                                                                                                                                                                                                                                                    VEGFR-1
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0.0054;
                                                                                                         BB
                                                                                     DB 6;
.0062;
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                                                                                                                                                                                                                                                                                                                                                              Aqular S., Miller J.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A
                                                                                                                                                                                                                                                                                                                      and
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                                                                                                                                                                                                                                                                               databases.
                                                                                                                                                                                                                                                                                                                    VEGFR-2 in
                                                                                                         Length 102
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                                                                  Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s monkey).
Euteleostomi;
                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 44;
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                                                               Gaps
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Q9XSF4
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O60720;
O60720;
O60720;
O1-AUG-1998 (TREMBLrel. 07, Created)
O1-MAY-1999 (TREMBLrel. 10, Last sequence update)
O1-JUN-2000 (TREMBLrel. 14, Last annotation update)
VEGF183 PROTEIN PRECURSOR (VASCULAR ENDOTHELIAL GRO
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Submitted (MAR 1999) to the EMBI
EMBL; AF133249; AAD22683.1; -
INTERPO, IPRO0072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 208 AA; 24400 MW; (
                                          Signal.
SIGNAL
CHAIN
                                                                                                                                                                                                                                                        Jingjing L., Roque R.S.;
Submitted (MAY-1998) to the
EMBL; AJ010438; CAA09179.1;
EMBL; AF002645; AAC16730.1;
HSSP; P15692; 2VPF.
                                                                                                                            PFAM; PF00341; FDGF; 1.
PROSITE; PS00249; PDGF;
PRODOM; PD001629; -; 1.
             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lei J., Jiang A., Pei D.;
"Identification and characterization
"secular endothelial growth factor: v
Biochim. Biophys. Acta, Gene Struct.
                                                                                                                                                                                                                                                                                                                                                                                                                     FISSUE=RETINA;
                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 114-209 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE; 99096474.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=KIDNEY;
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Eukaryota; Metazoa; Chordata; C
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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01-NOV-1999 (TrEMBLrel.
01-JUN-2000 (TrEMBLrel.
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01-NOV-1999
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         27
209 i
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             ŘΑ;
      26
209
24422
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14,
             MW;
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POTENTIAL.
VEGF183 PROTEIN.
; F01CCEACD945D6CA CRC64;
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Pred. No. 0.01
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: VEGF183.
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i; Hominidae; Homo.
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P SEQUENCE FROM N.A.

C TISSUE-HEART;

A Jingjing L., Roque R.S.;

A Jingjing L., Roque R.S.;

RL Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.

BR EMBL, AF133250; AAD295684.1; -.

DR INTERPRO, IPR000072; -.

DR INTERPRO, IPR000072; -.

DR PFAM; PF00341; PDGF; 1.

DR PFAM; PF00341; PDGF; 1.

DR PFAM; PF00349; PDGF; 1.

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                   Mol. Endocrinol. 5:1806-1814(1991).
EMBL; S85192; AAC63102.1; -.
EMBL; S85224; AAC63101.1; JOINED.
EMBL; S85199; AAC63101.1; JOINED.
EMBL; S85201; AAC63101.1; JOINED.
EMBL; S85201; AAC63101.1; JOINED.
EMBL; S85219; AAC63101.1; JOINED.
EMBL; S85222; AAC63101.1; JOINED.
HSSP; P15692; ZVPF.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
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Q1-NOV-1996 (TrEMBLrel. 08, L.
Q1-NOV-1998 (TrEMBLrel. 18, L.
Q1-JUN-2000 (TrEMBLrel. 14, L.
VASCULAR ENDOTHELIAL GROWTH F.
VEGF 206.
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                                                                                                                                                                                                                                                                                       MEDLINE; 92168017.

Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;

"The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing of RNA.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Canis familiaris (Dog).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR 188.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q16889
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128 CECRPKKDRARQEK 141
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Pred. No. 0.011;
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GenCore version (c) 1993 - 2000

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hypothetical prote	40s ribosomal prot	ribosomal protein	hypothetical prote	hypothetical prote	hypothetical prote	deoxyribodipyrimid	hypothetical prote	hypothetical prote	probable ABC trans	prolactin-induced	ribosomal protein	hypothetical prote	hypothetical prote	AMP deaminase homo	hypothetical prote

ALIGNMENTS

A. Cross-references: GB: 338083; NID:g249858; PIDN:AAB22253.1; PID:g249859 A. Experimental source: embryo A. Mote: sequence extracted from NCBI backbone (NCBIN:107622, NCBIP:107623) R; Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M. J. Biol. Chem. 267, 16317-16322, 1992 A. Title: Vascular endothelial growth factor. Regulation by cell differentiation and Reference number: A43351; MUID:9235593 A. Reference number: A43351; MUID:9235593 A. Accession: A43351 A. Molecule type: mRNA A. Residues: I-116, 'ER', 119-190 <CLA> A. Rosidues: I-116, 'ER', 119-190 <CLA> A. Rosidues: GB:M95200; NID:9202350; PIDN:AAA40547.1; PID:g202351 A. Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBIP:110675) A. Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J. Crosts-references: GB:M9520100. A;Title: Expression of vascular endothelial growth A;Reference number: A44881; MUID:92274860 A;Accession: B44881 C;Species: Mus musculus (house mouse) C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999 R;Breier, G.; Albrecht, U.; Stopevelopment 114, 521-532, 1992 C; Accession: B44881; A43351; A61029 A;Molecule type: protein A;Residues: 27-38 <ROSS C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein. Growth Factors 4, 53-59, 199 A; Title: Conditioned medium A; Molecule type: mRNA A; Residues: 1-190 <BRE> δÃ vascular endothelial growth factor-1 precursor - mouse 멍 A; Accession: A61029 A; Reference number: Matches 27 Local 1 APTTEGEQKSHEVIKFMDVY APTTEGEOKS SEVIKEMDVY 20; Similarity 100 20; Conservative d medium from mouse sarcoma 180 cells contains vascular A61029; MUID:91197543 1990 92.1%; Sterrer, S.; Risau, 20 0; Score 105; Pred. No. Mismatches 7.2e-1 DB 2; factor during 0 Length 190; embryonic angiogenes 0 Gaps endothelia 0 and

serine proteinase

RESULT 2
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A44881
C:Species: Wascular endothelial growth factor-3 precursor - mouse
N;Contains: vascular endothelial growth factor-2; vascular permeability fact
C:Species: Mus musculus (house mouse)
C:Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
C:Accession: A44881; C44881; A60932; S52136
C:Accession: A44881; C44881; A60933; S52136

vascular permeability factor

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RESULT
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A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that A;Reference number: A35987; MUID:90207249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    glioma-derived vascular endothelial cell growth factor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Species: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
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A;Residues: 27-33 <CLA>
R;Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa,
Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms
A:Reference number: S52136; MUID:95101726
A;Accession: S52136
A;Status: preliminary
vascular endothelial growth
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A;Accession: A60932
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A;Title: Expression of vascula
A;Reference number: A44881; MU
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Residues: 1-190 <CON>
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                                      A;Cross-references: GB:M31836;
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A; Molecule type: mRNA
A; Residues: 1-190 (LEU)
A; Residues: 1-190 (LEU)
A; Cross-references: (B:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
R; Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.;
Blochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A; Title: Vascular endothelial growth factor: a new member of the platelet-
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B40080
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A;Title: Vascular endothelial growth factor
A; Molecule type: mRNI.
A; Residues: 27-190 < TIS>
                                               A; Reference number: £33787; A; Accession: B33787
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A;Residues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
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A;Title: Vascular endothelial growth factor: a new member of the platelet-derived
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A; Residues: 1-190 <SHA>
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sequence_revision 21-Jul-1995 #text_change
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NID:g163808;

PIDN: AAA30804.1;

PID:g163809

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ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 C;Accession: $57956 R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M. submitted to the EMBL Data Library, July 1995 A;Reference number: S57956 A;Recession: S57956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R:Senger, D.R.; Connolly, D.T.; Van De Water, Cancer Res. 50, 1774-1778, 1990
A:Title: Purification and NH-2-terminal amino A:Reference number: A60544; MUID:90167668
A:Accession: A60544
                                                                                                                                                                                                                                     A;Cross-references: EMBL:x89506; NID:g899350; PIDN:CAA61677.1; PID:g899351
                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-146 < RED>
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C; Keywords: mitogen
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A;Title: Tumor vascular permeability factor stimulates endothelial cell growth and angic A;Reference number: A60706; MUID:90037570
A;Accession: A60706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A:Molecule type: protein
A:Residues: 27-31 <FER>
C:Keywords: alternative splicing; glycoprotein
C:Keywords: slignal sequence #status predicted <SIG>
F:1-26/Domain: signal sequence #status predicted status predicted
F:27-190/Product: vascular endothelial growth factor #status predicted
F:100/Binding site: carbohydrate (Asn) (covalent) #status predicted
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A;Title: Pituitary follicular cells secrete a novel heparin-binding growth factor
A;Reference number: A33255; MUID:89286596
A;Accession: A33255
      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                           Status:
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Species: Cavia porcellus (guinea pig)
Date: 14-May-1993 #sequence_revision 14-May-1993 #text_change 17-Mar-1999
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A; Molecule type: mRNA
A; Residues: 1-140, 'N', 183-232 <WI
A; Cross-references: EMBL: X62568;
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A; Residues: 1-140, 'N'; 183-232 <LEU>
A; Cross references: 'SB:M32977; NID:
                                                                                                                                                                                                                                                                                                                           A;Cross references: 3B:M27281; NID:g340300; PIDN:AAA36807.1; PID:g340301 R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1309, 1989
A;Title: Vascular enJothelial growth factor is a secreted angiogenic mit. A;Reference number: A40080; MUID:90069608
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A;Molecule type: DNA
A;Residues: 1-165,183-232 <TI1>
A;Residues: GB:M63971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: DNA
A;Residues: 1-140,'N',183-232 <TI2>
A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-165,183-232 <KEC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; R;Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; For Science 246, 1309-1312, 1989
                                                                                                                                                                                                                                                                                   A; Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                 A; Reference number: A40080; A; Accession: A40080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Reference number: A; Accession: A40079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Title: Vascular permeability factor, an A; Reference number: A40079; MUID: 90069609
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A; Residues: 1-141,227-232 <TI3>
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A;Title: The human gene for vascular endothelial growth factor. Multiple protein form A;Reference number: A40454; MUID:91268072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-141,227-232 <HOU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W. Mol. Endocrinol. 5, 166-1814, 1991
A;Title: The vascular endothelial growth factor family: identification of a fourth A;Reference number: A41551; MUID:92168017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: not compared with conceptual translation
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A; Residues: 1-140, 'N'
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A; Residues: 1-232 <HOU1>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;Species: Homo sapiens (man)
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AWEIN

NID: 937658; PIDN: CAA44447.1;

PID: 937659

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A;Accession type: protein
A;Molecule type: protein
A;Residues: 27-36;43-49,'R';72-76,'Q',78-81;59-71 <CON>
Commant: The most common of several alternatively spliced
                 hypothetical protein T20B5.12 - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 14-May-1999 C;Accession: T00756 C;Acces
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A; Introns: 66/3
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A; Residues: 1-360 <WIL>
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C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
C;Accession: T20686
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C; Function:
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A;Map position: 6p21-6p12
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A;Title: Human vascular permeability factor. Isolation from U937 cells.
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A;Molecule type: mRNA
A;Residues: 1-140,'N',227-232 <WE2>
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                                                                                                                                                                              T00756
                                                                                                                                                                                                                    RESULT
Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
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Pred. No. 4.5;
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             R.C.; Sykes, S.M.;
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A; Gene: SCC
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A; Residues: 1-2272 <\VIII>
A; Cross-references: EMBL
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A; Introns: 35/3
A; Note: T20B5.12
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A; Residues: 1-180 <OLI>
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A; Residues: 1-436 < ROU>
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submitted to the EMBI Data Library, September 1994 A; Reference number: Z18980 A; Accession: T18572
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C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: EMBL:AC002409; NID:g2623294; PID:g2623306
A;Experimental source: cultivar Columbia
C;Genetics:
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A;Description: Arabidopsis thaliana chromosome II
A;Reference number: 714159
A;Accession: T00756
A;Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                      R;Oliver, K.; Harris, D.; Bentley, S.D.; Parkhill, J.; Barrell, submitted to the EMBL Data Library, February 1999
A;Reference number: 221559
A;Accession: T34851
                                                                                                                                                                                                                                                                                                                                       C;Species: Streptomyces coelicolor
C;Date: 05-Nov-1999 *sequence_revision 05-Nov-1999 *text_change 05-Nov-1999
                                                                                                                                        A; Experimental source: strain A3(2)
                                                                                                                                                           A;Cross-references: EMBL:AL035478; PIDN:CAB36605.1; GSPDB:GN00070; SC0EDB:SC2G5.18c
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A: Title: Differentiation specific element binding protein (DSEB) binds to a defined element differentiation of 3T3-L1 adipoblasts to adipocytes.

A: Reference number: A56284; MUID:95388065

A; Accession: A56284

A: Status: preliminary; not compared with conceptual translation

A; Molecule type: mRNA

A; Molecule type: mRNA

A; Residues: 1-1130 <MCG>

A; Cross-references: GB:U36441; NID:g1022775; PIDN:AAA79698.1; PID:g1022776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            differentiation-specific element binding protein - mouse
C:Species: Mus musculus (house mouse)
C:Date: 05-May-1995 #sequence_revision 05-May-1995 #text_change 28-May-1999
C:Accession: A56284
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C; Accession: T40193

R; Wood, V; Rajandream, M.A.; Barrell, B.G.; Lauber, J.; Hilbert, H.; Duesterhoeft, A. submitted to the EMBL Data Library, February 1998

A; Reference number: Z21910

A; Accession: T40193

A; Status: preliminary; translated from GB/EMBL/DDBJ

A; Molecule type: DNA

A; Molecule type: DNA

A; Residues: 1-405 < (200)

A; Experimental source: EMBL:Z97992; PIDN:CAB10798.1; GSPDB:GN00067; SPDB:SPBC30D10.03c

A; Experimental source: Strain 972h-; cosmid c30D10

C; Genetics:
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Best Local Similarity 45.0%;
Matches 9; Conservative
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tive 4; Mismatches
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RS27_XENLA
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"Vascular endothelial growth factor. Regulation by differentiation and activated second messenger path J. Biol. Chem. 267:16317-16322(1992). [3] [3] [3] [3] [3] [3] [3] [3] [3] [3	98967 2210 2210 2210 2313 317 317 317 317 317 317 317 317 317
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Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Pallsi T.M., Hope D.A., Thomas K.A.;
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01-AUG-1990 (Rel. 15, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
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Eukaryota; Metazoa; Chor
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PROSITE;
                                                                                  "Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor."; proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                                                                                                                                     SEQUENCE FROM N.A., AND SEQUENCE OF 27-190.
                                                                                                                                                                                                                                                                PERMEABILITY FACTOR) (VPF).
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CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION PERMEABILITY.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT REMAINS A
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED
SIMILARITY). —
TISSUE SPECIFICITY: EXPRESSED IN THE PITUTA
PARTICULARLY IN SUPRAOPTIC AND PARAVENTRICUL
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3L; S38083; AAB22253.1; -...
3L; S38100; AAB22254.1; -...
BL; M95200; AAA40547.1; -...
BL; U41383; CAB35545.1; -...
R; A43351; A43351.
SP; P15692; 2VGH.
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PS50278; PDGF_2; 1.
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INTERCHAIN (BY SIMILARITY).
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N-LINKED (GLONAC. . . ) (PROBABLE).
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MISSING (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-2).

MISSING (IN ISOFORM VEGF-2).

MISSING (IN REF. 2).
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Best Local S
Matches 18
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P49151;
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Sharma H.S., Tang Z.H., Gho B.C.H.,
"Nucleotide sequence and expression
endothelial growth factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).
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                                                                 This SWISS-PROT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-HEART;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sus scrofa (Pig).
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PIR; A35987; A35987.
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                                                                                                                                                                                CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION PERMEABILITY (BY SIMILARITY).

SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILA SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSO TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY
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Sutheria; Cetartiodactyla; Suina; Suidae;
ROT entry is copyright. It is produced through a collaboration Swiss Institute of Bioinformatics and the EMBL outstation - Bioinformatics Institute. There are no restrictions on its
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N-LINKED (GLCNAC. . .).
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Best Local :
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                                                 MEDLINE; 89286596.

Ferrara N., Henzel W.J.;

Ferrara N., Henzel W.J.;

Pituitary foilicular cells secrete a novel heparin.

Pituitary foilicular cells secrete a novel heparin.

Forest for vascular endothelial cells.";

Biochem. Biophys. Res. Commun. 161:851-858(1989).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS.
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CARBOHYD
SEQUENCE
                                                                                                                                                                                                                      Tischer E., Gospodarowicz D., Maraham J.A.;
Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothelial growth factor: a new member of
derived growth factor gene family.";
derived growth factor gene family.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P15691;
01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence up
01-OCT-1996 (Rel. 34, Last annotation
VASCULAR ENDOTHELIAL GROWTH FACTOR PRE
PERMEABILITY FACTOR) (VPF).
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"Vascular endothelial growth
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Mammalia;
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  PERMEABILITY.
- SUBUNIT: HOMO
- SUBCELLULAR I
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Eutheria;
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Gospodarowicz D., Mitchell R., Gospodarowicz J.C., Abraham J.A.
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HOMODIMER, DISULFIDE-LINKED.

LAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
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22368 MW;
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Cetartiodactyla; Ruminantia;
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75.0%;
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6 POTENTIAL.

6 VASCULAR ENDOTHELIAL GROWTH F.

3 BY SIMILARITY.

7 BY SIMILARITY.

9 BY SIMILARITY.

9 BY SIMILARITY.

1 INTERCHAIN (BY SIMILARITY).

5 INTERCHAIN (BY SIMILARITY).

0 N-LINNED (GLCNAC...) (POTEN).

10 ON-LINNED (GLCNAC...) (POTEN).
                                                                                                                                                                                                                                                                                                                                                         N.A.
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                                                                                                                    novel heparin-binding
ial cells.";
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6.8e-07;
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minantia; Pecora; Bovoidea;
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angiogenic
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Best Local &
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    Reynolds L.P., Moor R.M.;

"Characterization and expression of vascular endoth factor (VESF) in the ovine corpus luteum.";

J. Reprod. Fertil. 108:157-165(1996).

-I. FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH, INDUCES ENDOTHELIAL PROLIFERATION A PERMEABILITY.
                                                                                                                                                                                                      VEGF_SHEEP
P50412;
01-OCT-1996
01-OCT-1996
01-OCT-1996
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SEQUENCE
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EMBL; M31836; AAA30804.1; -.
EMBL; M33750; AAA30805.1; -.
PIR; A33255; A33255.
PIR; A33787; A33787.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           between the Swiss Institute of Bioinformat
the European Bioinformatics Institute. The
up non-profit institutions as per
modified and this statement is not removed.
entitles requires a license agreement (See
or send an email to license@isb-sib.ch).
                                                                   MEDLINE; 97117958.
Redmer D.A., Dai Y.,
Reynolds L.P., Moor )
                                                                                                                                          Eukaryota; Metazoa; Mammalia; Eutheria;
                                                                                                                                                                          VEGE
                                                                                                                                                                Ovis aries
                                                                                                                                                                                   PERMEABILITY
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                                                                                                   TISSUE-KIDNEY;
                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                Bovidae; Caprinae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TO THE EXTR
SIMILARITY)
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16 (Rel. 34, Last sequence upd
17 (Rel. 35, Last annotation u
NDOTHELIAL GROWTH FACTOR PREC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EXTRACELLULAR MATRIX UNLESS RELEASED BY
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HOMODIMER,
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                                                                                                                                                                                                                                                STANDARD;
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                                                                                                                                 Ovis
                                                                                                                                          Chordata; Crania
Cetartiodactyla;
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DISULFIDE-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Glycoprotein; Alternative splicing; Signal.
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BY SIMILARITY.
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R -> K (IN ISOFORM BETA).

EDBF903E46E24789 CRC64;
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; Mismatches
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                                                                                                                                          Craniata; Vertebra
actyla; Ruminantia;
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No.
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3.1e-06;
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minantia; Pecora;
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                                                            endothelial growth
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                    AND VASCULAR
                                                                                                                                                     Euteleostomi;
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                              AND ENDOTHELIAL
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Best Local
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the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/gr send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                            01-AUG-1992
01-AUG-1992
01-OCT-1996
                                                                                This
                                                                                                                                                                                         Submitted (XXX-1992)
-!- FUNCTION: GROWTH
                                                                                                                                                                                                                                                                                                                                                               VEGF_CAVPO
P26617;
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CARBOHYD
SEQUENCE
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                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                             Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                        01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-CT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY
                                                                                                                                                                                                                                                                                                                                                                                          _CAVPO
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                                                                                                                                                                                                                                                     Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                     FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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HSSP; P15692;
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SIMILARITY: BELONGS TO
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SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
                                                                                              SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                              CELL GROWTH.
                                                            SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the Ev
                                                                                                                                                                                                                                                                                                                                                                                                                                                 APTTEGEQKSHEVIKEMDVY 20
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                                                                                                                          THE EXTRACELLULAR MATRIX UNLESS RELEASED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Growth
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PS50278; PDGF_2;
Growth factor; G1
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IPR000072; -.
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FACTOR ACTIVE IN ANGIOGENESIS, AND
UCES ENDOTHELIAL PROLIFERATION AND V
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75.0%;
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BY SIMILARITY.
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VASCULAR ENDOTHELIAL GROWTH E
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INTERCHAIN (BY SIMILARITY).
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Pred. No.
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4E792CB557F91760 CRC64;
                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Hystricognathi; Caviidae; Cavia.
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5e-06;
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                                                                                              Weindel K., Marme D., Weich H.A., "AIDS-associated Kaposi's sarcoma endothelial growth factor."; Biochem. Biophys. Res. Commun. 18:
     MEDLINE; 90062112.
Connolly D.T., Cla
                                                                                                                                                                                                                                                                                 "The human gene for vascular endothelial growth protein forms are encoded through alternative ex J. Biol. Chem. 266:11947-11954(1991).
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                                                      PRELIMINARY SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
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Connolly D.T.;
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01-APR-1990 (Rel. 14, Last sequence update)
15-UUL-1999 (Rel. 38, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
PERMERBILLITY FACTOR) (VPF).
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Eukaryota; Metazoa; C
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MEDLINE; 90069608.
Leung D.W., Cachianes
"Vascular endothelial
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Growth factor; G
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Structure 6:637-648(1998).
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"Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Vascular endothelial growth factor: crystal structure mapping of the kinase domain receptor binding site."; proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
                                                                the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                  "1H, 13C, and 15N backbone assignment and secondary structure receptor binding domain of vascular endothelial growth factor. Protein Sci. 6:2250-2260(1997).
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"The crystal structure of vascular endothelial gr
refined to 1.93-A resolution: multiple copy flexi
binding.";
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MEDLINE; 93145946,
Fiebich B.L., Jaeger B.,
Kochs G., Marme D., Hug H
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Starovasnik M.A.;
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Fairbrother W.J., Keenan
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                                                                                                                                                     ALTERNATIVE PRODUCTS: FOUR FORMS OF VEGF ARE PRODUCED BY ALTERNATIVE SPLICING OF THE SAME GENE (VEGF-121, VEGF-165, VEGF-189, AND, VEGF-215).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                               SUBUNIT: HOMODIMER, DISULFIDE-LINKED. SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN
                                                                                                                                                                                                                                                                                       FUNCTION: GROWTH FACTOR ACTIVE CELL GROWTH. INDUCES ENDOTHELIA
                                                                                                                                                                                                                 SIMILARITY).
                                                                                                                                                                                                                                                                         PERMEABILITY
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W.J., Keenan C.J., Meng G., do
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Meng G., de Vos A.M.;
Meng G., de Vos A.M.;
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RESULT 8
VEGF_CHICK
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VEGE CHICK
P52502; Q91420;
p1-0cT-1996 (Rei. 34, Created)
f 01-0cT-1998 (Rei. 36, Last sequence updat
f 15-DC-1998 (Rei. 37, Last annotation up
DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECU
                                                                                                                                                                                                   Query Match
Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M63978;
EMBL; M63971;
EMBL; M63973;
EMBL; M63973;
EMBL; M63974;
EMBL; M63975;
EMBL; M63976;
EMBL; M63977;
EMBL; M63977;
EMBL; M63977;
                                                                                                                                                                                                                                                                                 DISULFID DISULFID DISULFID DISULFID DISULFID CARBOHYD
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VARSPLIC
SEQUENCE
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PIR;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL;
PIR; /
                                      Coturnix coturnix japonica (Japanese quail)
Eukaryota; Metazoa; Chordata; Craniata; Ver
Archosauria; Aves; Neognathae; Galliformes;
       SPECIES-CHICKEN; TISSUE-HEART;
               SEQUENCE FROM
                                                                                                                                                                                                                                                                          VARSPLIC
                                                                                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                         SIGNAL
                                                                                                                                                                                                                                                                                                                                                         Mitogen;
                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                 PFAM;
                                                                                                                                                                                                                                                                                                                                                3D-structure.
                                                                                                                                                                                                                                                                                                                                                                                         INTERPRO,
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                                                                                                                                                                                                                                                                                                                                                                                                       1VGH; 08-APR-98.
2VGH; 08-APR-98.
1VPF; 08-APR-98.
2VPF; 29-JUL-98.
1VPP; 23-FEB-99.
                                                                                                                                                                                                                                                                                                                                                                                                                                              ; JQ1463; JQ1463;
; JQ1464; JQ1464;
; S17348; S17348;
                                                                                                                                                                             APTTE-GEQKSHEVIKFMDVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A34492; A34492
A40079; A40079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B40454; B40454
C40454; C40454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A40080; A40080
A40454; A40454
                                                                                                                                                                    APMAEGGGQNHHEVVKFMDVY
                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                PS00249; PDGF_1;
PS50278; PDGF_2;
                                                                                                                                                                                                                                                                                                                                                                                IPR000072; -.
                                                                                                                                                                                                                                        142
142
215
                                                                                                                                                                                                   Conservative
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101
141
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52
83
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CAA44447
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AAA36804.1;
               N.A.
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                                                                                                                                                                                                                                                                                                                                                         factor;
                                                                                                                                                                                                                                                                                  215
94
128
130
77
86
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                                                                                                                                                                                                           57.5%;
                                                                                                                                                                                                                                                                                                                                                        Glycoprotein; Alternative splicing; Signal;
                                                                                                                                                                                                                                            MW;
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                                                                                                                                                                                                                                                                 INTERCHAIN.
N-LINKED (GLCNAC.
K -> N (IN ISOFOR
VEGF-165).
                                                                                                                                                                                                          Score
Pred.
                                                                                                                                                                                                                                          MISSING (IN ISOFORM VEGF-165).
MISSING (IN ISOFORM VEGF-121).
; 7B9759AD5871FF33 CRC64;
                                                                                                                                                                                                                                                                                                                                 VASCULAR ENDOTHELIAL
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                                                                                                                                                                                                   Mismatches
                                                                                     ion update)
PRECURSOR
                                                                                                                                                                                                           65.5; DB 1
                                                                                                                                                                                                                                                                         (IN ISOFORM VEGF-121 AND
                                                                                                     update)
                                                                                                                              216
                                     Vertebrata; Euteleostomi;
nes; Phasianidae; Phasianinae;
                                                                                                                              8
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                                                                                     (VEGF) (VASCULAR
                                                                                                                                                                                                   5.
                                                                                                                                                                                                                  Length 215;
                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                  GROWTH FACTOR
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STEETE TEETE TEETE
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Best Local S
Matches 10
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CARBOHYD
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SEQUENCE
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or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Flamme I., Breier G., Risau W.;

"Vascular endothelial growth factor (VEGF) and VEGF receptor 2

(flk-1) are expressed during vasculogenesis and vascular
differentiation in the quail embryo.";

Dev. Biol. 169:699-712(1995).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
PERMEABLITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00249; PDGF_1; PROSITE; PS50278; PDGF_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERPRO; IPRO00072; PFAM; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.; "Overexpression of vascular endothelial growth factor in the avian embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formation."; Dev. Biol. 171:399-414(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPECIES-C. MEDLINE; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 60-187 FR
SPECIES-C.C.JAPONICA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE; 95301109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
[2]
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                                  32 DGERKPNEVIKFLEVY 47
                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).

ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146 AND VEGF
166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME
GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CEI
FINITION SIGNAL.

TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART AND
LIVER. IN KIDNEY GLOWERULI, BRAIN AND YOLK SAC, VEGF-166 FORM IS
5- TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS DEVELOPMENTAL STAGE: THE VEGF-167 FORM IS UPGRADED DURING GRASTRULATION. EXPRESSION OF THE VEGF-190
FORM IS DETECTABLE ONLY FROM DAY 2.

SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                               EGEOKSHEVIKEMDVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S79680; AAB35371.1;
P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AB011078;
                                                                                                                                           . Similarity
10; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    requires a license agreement (See http://www.isb-sib.ch/announce) an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C.C.JAPONICA;
96005007.
                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                      27
83
87
87
77
101
142
143
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216
216
128
130
77
86
101
142
142
166
166
210
25203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           factor;
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                                                                                                                                                                 50.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Glycoprotein; Alternative splicing; Signal
                                                                                                                                                                                                                                                                                   WW;
                                                                                                                                                                                                                                                                     INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIA
K -> N (IN ISOFORM VEGF-166).
MISSING (IN ISOFORM VEGF-146).
F -> L (IN ISOFORM VEGF-146).
MISSING (IN ISOFORM VEGF-146).
MISSING (IN ISOFORM VEGF-146).
MISSING (IN ISOFORM VEGF-146).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .'
                                                                                                                                     Score 58; DB pred. No. 0.025; Mismatches
                                                                                                                                        5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                 DB 1;
0.022;
                                                                                                                                                                                           Length 216
                                                                                                                                                                                                                                                                                                                                                                                                             (POTENTIAL).
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                                                                                                                               Gaps
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Yamada

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Matches
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Best Local
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"Identification of a 97-kDa heat shock p
ovaries with 94% anino acid identity to
receptor for sperm.";
Dev. Biol. 184:31-37(1997).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (P
-!- SIMILARITY: BELONGS TO THE HEAT SHOC
                                                                                                                                                                                                                                                                                                          _MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7_STRFN
HS97_STRFN
Q94738;
                                                                                                                                               P35601;

01-UUR-1994 (Rel. 29, Created)

01-OCT-1996 (Rel. 34, Last sequence update)

01-OCT-1996 (Rel. 34, Last sanotation update)

01-OCT-1996 (Rel. 34, Last annotation update)

ACTIVATOR 1 140 KDA SUBUNIT (REPLICATION FACTOR C LARGE SUBUNIT)

140 KDA SUBUNIT) (RF-C 140 KDA SUBUNIT) (ACTIVATOR 1 LARGE SUBUNIT)

(A1-P145) (DIFFERENTIATION SPECIFIC ELEMENT BINDING PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1997
01-NOV-1997
30-MAY-2000
97 KDA HEAT
STRAIN-BALB/C
                 SEQUENCE FROM
                                                                                                                 (ISRE-BINDING PROTEIN).
RFC1 OR RECC1 OR IBF-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                             Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                        AC15_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; U69254; AAB09038.1; HSSP; P19120; INGC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS01036; ATP-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PFAM; PF00012; HSP70;
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Eukaryota; Metazoa; Echinodermata; Eleutherozoa;
                                                                                                                                                                                                                                                                                                                                                                                      846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO; IPR001023;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.
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                                                                                                                                                                                                                                                                                                                                                                                    APTTEGEEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
8; Conser
                                                       Eutheria;
                                                                       Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           988
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(Rel.
(Rel.
SHOCK
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                 N.A.
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HSP70_2;
HSP70_3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    35, Created)
35, Last sequence update)
39, Last annotation update)
PROTEIN (HEAT SHOCK PROTEIN
                                                       Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           38.6%;
88.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 44; DB
Pred. No. 20;
1; Mismatches
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heat shock protein from S. franciscanus
identity to the S. purpuratus egg surfac
                                                   Craniata; Vertebrata; Euteleosto
Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252177643ECFEDD8
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20;
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                                                   Euteleostomi;
; Murinae; Mus
                                                                                                                                                                     SUBUNIT)
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SIMILAR
CONFLICT
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EMBL; Y72711; CAA51260.1; --
EMBL; U36441; AAA79698.1; --
EMBL; U07157; AAC52140.1; --
EMBL; U15037; AAB60452.1; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Differentiation-specific element binding protein (DSEB) defined element in the promoter of the angiotensinogen gefor the irreversible induction of gene expression during differentiation of 373-L1 adipoblasts to adipocytes."; Mol. Endocrinol. 9:487-501(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                         This
                                                                                                                  INTERPRO: IPRO01357; -. PFAM: PF00533; BRCT; 1. PROSITE; PS50172; BRCT; 1. DNA replication: ATP-binding; Activator; Nuclear protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-LAF1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              McGehee Habener J.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Luckow B., Bunz F., Stillm "Cloning, expression, and 140-kilodalton subunit of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Proc. Natl.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY: LOCAL,
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he EMBL/GenBank/DDBJ
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ATP (BY SIMILARITY).
C2HC-TYPE (POTENTIAL).
CUCLEAR LOCALIZATION SIGNAL (POTENTIAL)
INTERPERON-STIMULATED-RESPONSE-ELEMENT
BINDING REGION.
TO NAD-DEPENDENT DNA LIGASES.
Y -> N (IN REF. 3).
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RESULT 11
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                                                                                                                                                                                                                                                                                                                                                                        EMBL; U66480; AAB41090.1; -.
EMBL; Z99113; CABB13641.1; -.
SUBTILIST; BG12262; YNAJ.
INTERPRO; IPRO01927; -.
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Bacteria; Firmicutes;
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Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases in SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (PO
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(Rel. 37, L
(Rel. 39, L
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72; NA_GALACTOSIDE_SYMP; 1.
protein; Transport; Transmembrane;
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V -> A (IN REF. 5).
N -> S (IN REF. 4).
MISSING (IN REF. 3) AND
S -> N (IN REF. 1).
T -> A (IN REF. 3).
K -> KQ (IN REF. 4).
MW; A6F4F970A7F9EE94 C
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Score 43; DB Pred. No. 15; 2; Mismatches
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RESULT 13

TPS2_YEAST STANDARD

ID TPS2_YEAST STANDARD

AC p31688;
DT 01-UTL-1993 (Rel. 26, C

DT 01-OCT-1996 (Rel. 34, L

DT 01-NOV-1997 (Rel. 35, L

DT 01-REHALOSE-PHOSPHATASE (
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YJH1_YEAST
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EMBL; 249346; CAA89363.1; -
EMBL; 248851; CAA61310.1; -
PIR; S47119; S47119
SGD; S0003607; YJL071W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the EUROpean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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P40360;
01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 65.6 KDA PROTEIN IN SNC3-MRPL8 INTERGENIC REGION.
YJLO71W OR TI091 OR HRB574.
Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycetales;
           Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycetes;
Saccharomycetaceae; Saccharomyces.
                                                       PHOSPHATASE) (TPP).
TPS2 OR PFK3 OR YDR074W OR YD8554.07
                                                                                                                                                                                                                                                                                                                                                        Hypothetical protein. SEQUENCE 574 AA; 65610 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomyces L8.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (JUN-1995) to the EMBL/GenBank/DDBJ databases.
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MEDLINE; 95282514.
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                                                                                                                                                         STANDARD;
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                                                                                Last sequence update)
Last annotation update)
(EC 3.1.3.12) (TREHALOSE
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Pred. No.
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"Protein phosphatase 2A in Saccharomyces cerevisiae: effects on cegrowth and bud norphogenesis.";
Mol. Cell. Biol., 11:4876-4884(1991).
-i- CATALYTIC ACTIVITY: TREHALOSE 6-PHOSPHATE + H(2)O = TREHALOSE
                                                                                                                                                                          Hydrolase;
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PIR; S30052; S30052.
SGD; S0002481; TPS2.
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EMBL; Z46796; CAA66796.1; -.
EMBL; Z74370; CAA98893.1; -.
EMBL; X58858; CAA41661.1; -.
                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a coperation the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             trehalose-6-phosphate synthase/phosphatase complex in Saccharomyces cerevisiae, causes accumulation of trehalose-6-phosphate and loss of trehalose-6-phosphate phosphatase activity."; Eur. J. Biochem. 212:315-323(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE; 9318564)
de Virgilio C., J
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STRAIN-W303-1A;
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STRAIN-Cl3-ABYS86;
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165 PSNEGEQEKNWWYDYVKFNEAY
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                     N
                                                                                                                                                                                                                                                                                                                                                                                                                            OR FOUR POLYPEPTIDES OF 56 KDA (TPS1), 102 K
(TPS3) AND %23 KDA (TS11).
INDUCTION: INDUCED BY HEAT SHOCK; REPRESSED
SIMILARITY: TO THE E.COLI ENZYME (GENE OTSB)
SIMILARITY: CONTAINS A DOMAIN FOUND IN ALL T
                                                                                                                                                                                                                                                                                                                                                                                                                   TPS
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                   PTTEGEOKS - - - HEVIKEMDVY
                                            Similarity
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F -> Y (IN REF. 1).
N -> D (IN REF. 1).
O -> K (IN REF. 1).
O -> K (IN REF. 1).
N -> D (IN REF. 1).
M -> Y (IN REF. 1).
186
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                                                       Score 42.5;
Pred. No. 3
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                                            Mismatches
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                            TISSUE-OVARY;
Ladomery M.R., Sommerville J.;
Ladomery M.R., Sommerville J.;
Submitted (APR-1993) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: BELONGS TO THE S27E FAMILY OF RIBOSOMAL PROTEINS.
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Transferase; Transcription; 1
SEQUENCE 1265 AA; 142137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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P48120;
                                                                                                                                         Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: DNA-DEPENDENT RNA POLYMERASE CATALYZES THE TRANSCRIPTION
OF DNA INTO RNA USING THE FOUR RIBONUCLEOSIDE TRIPHOSPHATES AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-LB555 / PRINGSHEIM;
Stirewalt V.L., Michalowski C.B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cyanophora paradoxa.
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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MENDEL; 16051; CYApa;rpoC
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                                                                                                 SEQUENCE FROM N.A.
                                                                                                                               Xenopodinae;
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MERASE BETA" CHAIN (EC 2.7.7.6).
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Pred. No. 52;
7; Mismatches
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                                                                                                                                    Ribosomal protein; Zinc-finger; Metal-binding INIT_MET 0: 0 BY SIMILARITY.
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PROSITE; PS01168; RIBOSOMAL_S27E; 1.
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ilarity 35.7%;
Conservative
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9344 MW;
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Pred. No. 3.6;
4; Mismatches
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Search completed: November 9, 2000, 15:40:20 Job time: 573 sec

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                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1: sp_archea:*
2: sp_bacteria
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Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2000 Compugen Ltd.
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SUMMARIES
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Result	Score	Query Match	Length	8	Ħ	w	Description
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7	76	66.7	190	σ	Q9XSF3		
8	76	66.7	208	σ	Q9XSF4		canis
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10	65.5	57.5	147	4	Q9UH58		Q9uh58 homo sapien
11	65.5	57.5	174	4	Q9UL23		Q9ul23 homo sapien
12	65.5	57.5	191	4	075875		075875 homo sapien
13	65.5	57.5	209	4	060720		homo
14	65.5	57.5	254	4	Q16889		
15	50	43.9	148	13	042571		042571 xenopus lae
16	50	43.9	194	13	042572		
17	48	42.1	144	13	073822) brachyda
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36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	37.3	37.7-	37.7	37.7	37.7	37.7	37.7	37.7	38.6	38.6	38.6	38.6	40.4	40.4
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Q03280 saccharomyc	Q9sr51 arabidopsis	Q9q9x2 rhizoctonia	Q9vmu3 drosophila	Q19335 caenorhabdi	Q9y439 homo sapien	Q46160 corynebacte	059060 pyrococcus	Q60253 escherichia		Q9u757 caenorhabdi	Q9usi0 schizosacch	O45748 caenorhabdi	Q9y2i3 homo sapien	P74759 sulfolobus		Q9v5n3 drosophila	$^{\circ}$	Q9ug88 homo sapien	ø		Q9r0s4 mus musculu	014349 schizosacch	Q9z5a5 streptomyce	Q17329 caenorhabdi	022206 arabidopsis

ALIGNMENTS

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1 APTTEGEQKSHEVIKFMDVZ 20	Query Match 92.1%; Score 105; DB 11; Length 141; Best Local Similarity 100.0%; Pred. No. 2.2e-09; Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;		PRODOM; PD001629; -; 1.		NTERPRO: IPR000072: -	EMBL; U50279; A3C05442.1;	J. Biol. Chem. 273:3033-3038(1998).	"A nover afternatively spinced form of murine vascular endothelial growth factor, VEGF 115.";	•	98112857.	STRAIN-ICR;	SEQUENCE FROM N.A.		Spontaneous immortalization of maine indicates.; Biochim. Biophys. Acta 1224:365-370(1994).	PHILADICAL SAPESSED OF MATERIAL FOR A MINISTER ASSOCIATED WITH	to accordated		STRAIN-ICR;	SEQUENCE FROM N.A.		Mammalia: Eutheria: Rodentia: Sciurognathi: Muridae: Murinae: Mus.	Chordutus Crustutus Vortobrutus		000 (TremBLrel. 14, Last	(TremBLrel. 07,	01-AUG-1998 (TrEMBLrel. 07, Created)		070123 PRELIMINARY; PRT; 141 AA.	게 그

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Matches 18
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Best Local S
Matches 18
                                                                                                                                                                                                                  PFAM; PF00341; PDGF;
PROSITE; PS00249; PDV
SEQUENCE 146 AA;
                                                                                                                                                                                                                                                                                 IShii H., Arakawa T., Okayama M., Oota Developmental expression of vascular e (VEGF-A) splicing variants, VEGF-A188, masseter muscle.", submitted (DEC-1999) to the EMBL/GenBan EMBL; AF215726; AAF19212.1; -. INTERPRO, IPRO00072; -.
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PEAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
NON_TER
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                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
Ishii H., Arakawa T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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01-MAY-2000 (TrEMBLrel. 13,
01-JUN-2000 (TrEMBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
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Burchardt M., Burchardt T., Chen M.-W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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                        APTTEGEQKAHEVVKFMDVY
                                                                 APTTEGEOKSHEVIKEMDVY 20
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                                                                                                            l Similarity 90.0
18; Conservative
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18; Conserv
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Last annotation updat
FACTOR-A120.
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Last annotation update)
FACTOR A 110 PRECURSOR (FRAGMENT).
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Pred. No. 9
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Pred. No. 7.4e-09
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Sciurognathi; Muridae,
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Sciurognathi; Muridae;
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VEGF-Al64,
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                                                                                                                                DB 11;
.9e-09;
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                                                                                                                                                     Length 146;
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and VEGF-A120
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; Murinae; Rat
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REPUBLICATION OF THE PROPERTY 
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Q9QX39;
01-MAY-2000
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Q9QXG7;
01-MAY-2000
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"Developmental expression of vascular endothelial growth
(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VE
masseter muscle:",
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AFE15725; AARF19211.1; -.
INTERPRO; IPRO00072; -.
FRAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-2000 (TIEMBLIEL 13, Last sequence update) 01-JUN-2000 (TIEMBLIEL 14, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    U1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR-A188.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Spalax.
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Eukaryota; Metazoa; Chor
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Ishii H., Arakawa T.,
27
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                         1 APTTEGEQKSHEVIKFMDV----YC
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APTAEG
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18; Conserv
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                                                                                       Similarity 72.
18; Conservative
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Rodentia;
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72.0%;
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Pred. No.
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Sciurognathi; Muridae; Murinae; Rat
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ne subterranean mole
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5.3e-07;
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l.5e-08;
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l growth factor-
, and VEGF-A120
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01-NOV-1999
01-JUN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1998 (Tremblrel. 08, 01-NOV-1998 (Tremblrel. 08, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
 Q9XSF4
                                                                                                                                                                Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the
EMBL; AF133248; AAD29682.1;
INTERPRO; IPRO00072;
PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                        Canis familiaris (Dog).
                                                                                                                                                                                                                                                                                                                                       Q9XSF3;
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Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                      TISSUE-HEART;
                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                              APTTEGEQKSHEVIKEMDVY
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                                                   APMAGGEHKPHEVVKFMDVY 46
                                                                                           l Similarity
14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                            15; Conservative
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999 (TrEMBLrel. 12, Last sequence update)
000 (TrEMBLrel. 14, Last annotation updat
ENDOTHELIAL GROWTH FACTOR 164.
                                                                                                                                               PS00249; PDGF; 1.
190 AA; 22292 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                190 AA;
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                                                                                            Conservative
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 PRELIMINARY;
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Carnivora; Fissipedia; Canidae;
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70.0%;
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75.08;
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: Pred. No. 4.4e
1; Mismatches
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Last annotation update)
FACTOR.
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Canis.
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Q9UH58
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O1-NOV-1999 (Tremblre:
O1-JUN-2000 (Tremblre:
VASCULAR ENDOTHELIAL (
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Q9XSF5;
Q1-NOV-1999
Q1-NOV-1999
Q1-JUN-2000
                                    Q9UH58 PRELIMINARY; PRT; 147 AA. Q9UH58; 01-MAY-2000 (Trembirel. 13, Created) 01-MAY-2000 (Trembirel. 13, Last sequence update) 01-JUN-2000 (Trembirel. 14, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR ISOFORM 121 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; (
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Jingjing L., Roque R.S.;
submitted (MAR-1999) to the
EMBL; AF133249; AAD29683.1;
INTERPRO; IPRO00072;
PFAM; PF00341; PDGF; 1
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SEQUENCE
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Canis familiaris (Dog).
Canis familiaris (Dog).
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Submitted (MAR-1999) to the
EMBL; AF133250; AAD29684.1;
INTERPRO; IPRO00072;
PFAM; PF00341; PDGF; 1.
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Homo sapiens (Human) 
Eukaryota; Metazoa;
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TISSUE-HEART;
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214 AA;
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25151 MW;
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Chordata; Craniata; Vertebrata; Euteleostomi;
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70.0%;
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FACTOR 182.
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Last annotation update)
FACTOR 188.
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Pred.
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Canis.
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Sato J.D., Whitney R.G.;
Sato J.D., Whitney R.G.;
"Human CDNA for vascular endothelial grandmitted (DEC-1999) to the EMBL/GenBar
EMBL; AF214570; AAF19659.1; -.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSTIE; PS00249; PDGF; 1.
4,
                                                                                                                                                                                                                                                                                       and receptor mRNA expression in hidentification of VEGF148 mRNA, a Clin. Sci. 97:303-312(1999).
EMBL; AF091352; AAD55345.1; -.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 174 AA; 20218 MW; AE:
                              O75875 PRELIMINARY; PRT; 191 AA.
O75875;
O1-NOV-1998 (TrEMBLrel. 08, Created)
O1-NOV-1998 (TrEMBLrel. 08, Last sequence update)
O1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR.
HOmo sapiens (Human).
EUKARYOCE; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
EUKARYOCE; Metazoa; Chordata; Catarrhini; Hominidae; Homo.
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SEQUENCE
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Eukaryota; Metazoa;
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         SEQUENCE FROM N.A.
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Mammalia; Eutheria; Primates;
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66.7%;
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, Last annotation of 148.
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Pred. No. 0.00
1; Mismatches
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DDF4D6994249BED6 CRC64;
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Catarrhini;
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0.0058;
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Jingjing L., Roque R.S.;
Submitted (MAY-1998) to the E
EMBL; AJ010438; CAA09179.1; -
EMBL; AF062645; AAC16730.1; -
HSSP; P15692; 2VPF.
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060720;
01-AUG-1998
01-MAY-1999
01-JUN-2000
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PRAM; PE00341; PDGF; 1.
PRODOM; PD001629; -; 1.
PRODOM; PD001629; -; 1.
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"Identification of a human VPE/VEGF 3' untranslated region med hypoxia-induced mRNA stability.";
Mol. Biol. Cell 9:469-481(1998).
EMBL; AF022375; AAC63143.1; -.
HSSP; P15692; 1VPP:
HSSP; D15692; 1VPP:
INTERPRO; IPRO00072; -.
                                                                                                                                                                                                                                                                                                                                                                                                              01-AUG-1998 (TRIMBLIER). 07, Created)
01-MAY-1999 (TRIMBLIER). 10, Last seq
01-JUN-2000 (TRIMBLIER). 14, Last ann
VEGF183 PROTEIN PRECURSOR (VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-BREAST;
MEDLINE; 98119755.
                                                                                                                     Signal.
SIGNAL
                                                                                                SEQUENCE
                                                                                                                                           PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
                                                                                                                                                                                                                                                                            Lei J., Jiang A., Pei D.;
"Identification and characterization of a new splicing variant vascular endothelial growth factor: VEGF183.";
Biochim. Biophys. Acta, Gene Struct. Expr. 1443:400-406(1998).
                                                                                                                                                                                                                                                                                                                         TISSUE=KIDNEY;
MEDLINE; 99096474.
                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                      Mammalia;
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             APTTE-GEOKSHEVIKFMDVY
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209 AA;
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Metazoa; Chordata; C
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VEGF183 PROTEIN.
; F01CCEACD945D6CA CRC64;
                                                      Score 65.5;
Pred. No. 0.
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ENDOTHELIAL GROWTH
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042571;
01-JAN-1998 (TrEMBLTel. 05, C;
01-JAN-1998 (TrEMBLTel. 14, L;
01-JUN-2000 (TrEMBLTel. 14, L;
VASCULAR ENDOTHELIAL GROWTH E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MO1. Endocrinol. 5:1806-1814(1991).
EMBL; S85192; AAC63102.1; -.
EMBL; S85224; AAC63101.1; -.
EMBL; S85294; AAC63101.1; JOINED.
EMBL; S85219; AAC63101.1; JOINED.
EMBL; S85219; AAC63101.1; JOINED.
EMBL; S85222; AAC63101.1; JOINED.
EMBL; S85222; AAC63101.1; JOINED.
EMBL; S85262; AAC63101.1; JOINED.
EMBL; S85272; AAC63101.1; JOINED.
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Q16889; O1-NOV-1996 (TrEMBLrel. 01, C
01-NOV-1998 (TrEMBLrel. 08, L
01-JUN-2000 (TrEMBLrel. 14, L
VASCULAR ENDOTHELIAL GROWTH F
                                                                                                               SEQUENCE FROM N.A.
Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AF008893; AAB63679.1; -.
HSSP; P15692; 1VPP.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

MEDLINE; 92168017.

Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;

"The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing of RNA.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human).
Eukaryota; Metazot; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
[1]
                                                                                                                                                                                                                                                                                           Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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EGEQKSHEVIKFMDVY 20
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FACTOR (FRAGMENT).
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Last annotation update)
FACTOR 122.
                                         Score 50; DB 13; Length 148; Pred. No. 1.5; 3; Mismatches 4; Indels
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Job time: 613 sec
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EGDHKPTEVVKFLKVY 47

November 9 2000, 15:39:36

Page 6

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Result
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Maximum
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Maximum Match 100%
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Perfect score:
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ALIGNMENTS

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A;Molecule type: mRNA
A;Residues: 27-190 <TIS>
A;Cross-references: GB.M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
R;Ferrara, N.; Henzel, W.J.
Blochem. Biophys. Res. Commun. 161, 851-858, 1989
Blochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Tille: Pituitary follicular cells secrete a novel heparin-binding grow.
A;Reference number: .433255; MUID:89286596
                                                                                                                                                                                                                A;Molecule type: mRNA
A;Residues: 1-190 <LEDY
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
R;Tischer, E.; Gospojarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Cr Blochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vascular enJothelial growth factor: a new member of the platelet-derived gro A;Reference number: x33787; MUID:90121225
A;Reference number: x33787; MUID:90121225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vascular endothelial growth factor precursor (version 2) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 30-Jun-192 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999 C;Accession: B40080; B33787; A33255 R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1309, 1989
A;Title: Vascular endothelial growth factor is a secreted anglogenic mitogen.
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B40080
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C:Species: Sus scrofa domestica (domestic pig)
C:Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D. Biochim. Biophys. Acta 1260, 235-238, 1995
A;Title: Nucleotide sequence and expression of the por A;Reference number: 352130; MUID:95143284
A;Accession: S52130
A;Status: preliminary.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
S52130
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A;Accession: B40080
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A;Residues: 1-190 <SHA>
A;Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Accession:
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Matches 40; Conserv
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90.98;
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Pred. No. 2.4e-16;
0; Mismatches 0
                          novel heparin-binding growth factor
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A;Accession: A33255
A;Molecule type: protein
A;Residues: 27-31 <FER>
C;Reywords: alternative splicing; glycoprotein
C;Reywords: alternative splicing; glycoprotein
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #;
F;100/Binding site: carbohydrate (Asn) (covalent) #stat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Residues: 1-116, Er',119-190 <CLA>
A;Cross-references: GB:M95200; NID:9202350; PIDN:AAA40547.1;
A;Note: sequence extracted from NCBI backbone (NCBIN:110665, R;Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Growth Factors 4, 53-59, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Note: sequence extracted from NCBI backbone (NCBIN:107 R; Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M. J. Biol. Chem. 267, 16317-16322, 1992 A; Title: Vascular endothelial growth factor. Regulation A; Reference number: A43351; MUID:92355593 A; Accession: A43351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Accession: :
R;Breier, G.;
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                                                                                                                 glioma-derived vascular endothelial cell growth factor - rat C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change C;Accession: A35987
                                                                                                                                                                                                                                                                                                                                     QΥ
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A; Residues: 1-116, 'ER'
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A; Residues: 1-190 <BRE>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:S38083; NID:g249858; PIDN:AAB22253.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vascular endothelial growth factor-1 precursor - mouse
A; Reference number: A; Accession: A35987
                                   R;Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T
proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and CDNA sequences of a vascular endothelial cell mitogen
A;Reference number: A35987; MÜID:90207249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;Species: Mus musculus (house mouse)
;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
;Accession: B44881; A43331; A61029
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nes 40; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86.98;
                                                                                                                                                                                                                                                                                                                                                                                                    90.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         from mouse sarcoma
MUID:91197543
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                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                    Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      angiogenesis;
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                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                      206; DB 2;
No. 2.4e-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2;
.4e-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      factor #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                          Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        disulfide bond;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          during
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NCBIP: 110675)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBIP:107623)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Folkman,
                                                                                                                                              05-Nov-1999
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                                                                                                    Hope,
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               vascular endothelial growth facto
N;Alternate names: vascular perme
N;Contains: vascular endothelial
C;Species: Homo sapiens (man)
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A; Accession type: mRNA.
A; Molecule type: mRNA.
A; Residues: 1-140,209-214 <BR2>
A; Residues: 1-140,209-214 <BR2>
A; Residues: 1-140,209-214 <BR2>
A; Ross-references: (GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
A; Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
A; Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
A; Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: n
A; Residues: 1-190
                                                                                                                                                                                                                                                                                                     C;Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3. C;Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homo F;1-26/Domain: signal sequence #status predicted <SIG> F;27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms
A;Reference number: $52136; MUID:95101726
A;Accession: $52136; MUID:95101726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang
J. Exp. Med. 172, 1535-1545, 1916
A;Title: Vascular permeability factor: a tumor-derived
A;Reference number: A60932; MUID:91079755
A;Accession: A60932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Reference number: A; Accession: A44881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Development 114, 521-532, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Accession: A44881; C44881; A60932; S52136 R;Breier, G.; Albrecht, U.; Sterrer, S.; Ri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vascular endothelial growth factor-3 N; Contains: vascular endothelial grow
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                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: protein A; Residues: 27-46 <SUG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: protein A; Residues: 27-33 <CLA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Note: sequence extracted from NCBI backbone A; Accession: C44881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-214 <BRE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Title: Expression of vascular endothelial A; Reference number: A44881; MUID:92274860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Experimental source: embryo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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171
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                                 2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
ERRKHLFVQDFQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
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90.98;
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growth factor-2;
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Pred. No. 2.4e-16;
                                                                                                                                     Score 206; DB 2;
Pred. No. 2.6e-16;
0; Mismatches 0
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factor 206 precursor - permeability factor

growth

y factor

121

(VEGF 121);

VEGF

165;

VEGF

189;

ΥE

March States

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A; Molecule type: mRNA
A; Residues: 1-140,'N',227-232 <WE2>
A; Residues: 1-140,'N',227-232 <WE2>
A; Experimental source: AIDS-Kaposi's sarcoma cell
R; Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.;
J. Biol. Chem. 264, 20017-20024, 1989
A; Title: Human vascular permeability factor. Isolation from A; Reference number: A34492; MUID:90062112
A; Accession: A34492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-140,'N',183-232 <LEU>
A; Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1;
R; Weindel, K.; Marme, D.; Weich, H.A.
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A;Cross-references: GE:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977;
A;Cross-references: GE:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977;
A;Cross-references: GE:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M639
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A; Residues: 1-141,227-22 <HOU>
R; Tischer, E; Mitchell, R; Hartman, T; Silva,
J. Biol. Chem. 266, 11947-11954, 1991
A; Title: The human gene for vascular endothelial
A; Reference number: A40454; MUID:91268072
A; Accession: A40454
A; Molecule type: protein
A; Residues: 27-36; 43-49, 'R'; 72-76, 'Q', 78-81; 59-71 <CON>
C; Comment: The most common of several alternatively spliced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: EMBL:X62568; NID:g37658; A;Experimental source: AIDS-Kaposi's sarcoma A;Accession: JQ1464
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A; Cross-references: GB:M27281;
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A; Residues: 1-165
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A; Residues: 1-141, 22
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A; Residues: 1-165,183-232
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A; Residues: 1-140,'N',183-232 <HOU2>
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A;Accession: A40080
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;Residues: 1-140,'N',183-232 <TI2>
;Cross-references: GB:M63971; GB:M63972;
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Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
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onnolly, D.T.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                       Δjog>
     ЖМВL: X94216;
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C:Genetics:
A;Gene: GDB:VEGF
A;Cross-references: GDB:132244; OMIM:192240
A:Map position: 6p21-6p12
C:Function:
A;Description: promotes fluid and protein leakage from blood vessels
C;Everous: alternative splicing; anglogenesis; dimer; disulfide bond; extrace.
F;1-232/Product: vascular endothelial growth factor 206 precursor #status pred
F;1-155,183-232/Product: vascular endothelial growth factor 189 precursor #status-
F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #statis-
F;1-145/Domain: signal sequence #status predicted <51Go
F:101/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                         vascular endothelial 'growth factor C precursor - human N;Alternate names: FIT4 ligand DHM C;Species: Homo sapians (man) C;Date: 27-Apr-1996 #sequence_revision 01-Nov-1996 #text_change 08-Oct-1999 C;Accession: S69207; S61795; S71443; S69208; G02659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Molecule type: mrNn
A;Residues: 1-188 <TONA
A;Cross-references: GB:U43837; NID:g1314335; PIDN:AAC52553.1; PID:g1314336
C;Comment: This factor is a mitogen, that is selective for endothelial cells,
are endothelial growth factors 167 and VEGF 186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999 C;Accession: JC4680 .
R;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjoeld, M.
                                                                      R;Joukov, V.; Pajusola, K.; Kaipainen, A.;
EMBO J. 15, 1751, 1996
A;Title: Corrigendum: A novel vascular endo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Title: Characterization of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N; Alternate names: VRF 167 protein C; Species: Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vascular endothelial growth factor-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1-21/Domain: signal sequence #status predicted <SIG> 22-188/Product: vascular endothelial growth factor-related factor
                                                                                                                                                                                                                                                                                                                                                                                         147 QRRQRPDPRTCRCRCRRRFLHCQGRGLELNPDTCRCRKPRK 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 ERRKHLFV---OTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                       2 ERRKHLFVQTCKCSCKNTD-SRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
acid sequence not shown
                                             .369207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JC4679; MUID:96183052
                                                                      A novel vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   35.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86.9%;
90.9%;
                                                   MUID: 96203094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   220, 922-928, 1996
murine VEGF-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 206; DB Pred. No. 2.7e 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 85; DB 2;
Pred. No. 0.0082;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             206; DB 2;
No. 2.7e-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15;
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                                                                                                                         D.; Lahtinen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 188
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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                                                                        factor,
                                                                                                                         I.; Kukk,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2;
                                                                           VEGF-C,
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                                                                           is a ligand
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NID:g1177488; PIDN:CAA63907.1; PID:e221096; PID:g118

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A;Note: the nucleotide sequence was submitted to the EMBL Data Library, December 1995 A;Note: only a part of the translation is shown A;Note: this is a revision to the sequence from reference S61795 R;Joukov, V.; Pajusola, K.; Kaipainen, A.; Chilov, D.; Lahtinen, I.; Kukk, E.; Saksela EMBO J. 15, 290-298, 1996 A;Title: A novel vascular endothelial growth factor, VEGF-C, is a ligand for the Flt4 A;Reference number: S61795; MUID:96178224 A;Accession: S61795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Lee, J.; Gray, A.; Yuan, J.; Luoh, S.M.; Avraham, H.; Wood, W.I. submitted to the EMBL Data Library, December 1995 A;Description: Vascular endothelial growth factor related protein (VRP): A ligand A;Reference number: S69208 A;Accession: S69208
                                                                                                                                                                                                                                                                                                       C;Accession: $08167
R;Paulsson, G.; Lendahl, U.; Galli, J.; Ericsson, C.; Wieslander, L.
J. Mol. 211, 331-349, 1990
A;Title: The balbiani ring 3 gene in Chironomus tentans has a diverged repetitive struct A;Reference number: $08167; MUID:90172404
A;Accession: $08167
                                                                                                                                                                                                                                                                                                                                                                                                                                              Balbiani ring 3 protein - midge (Chironomus tentans)
C;Species: Chironomus tentans
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 17-Mar-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         submitted to the EMBL Data Library, May 1996
A;Reference number: H01557
A;Accession: G02659
A;Status: preliminary; translated from GB/EMBL/DDBJ
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A; Molecule type: protein
A; Residues: 'X', 104-120 <JOU2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 70-419 <JOUI>
                                                                                                                      A; Map position: 4
C; Superfamily: unassigned
                                                                                                                                                                                                            A; Residues: 1-1700 < PAU>
A; Cross-references: GB:X52263; NID:97057; PID:97058
                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-1700 <
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F;1-12/Domain: signal sequence #status predicted <SIG>F;13-102/Domain: propeptide #status predicted <PRO>F;103-419/Product: vascular endothelial growth factor C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Gene: GDB: VEGFC; VRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: EMBL:U58111; NID:g1373426;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R; Morris, J.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-419 <LEE>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Status: nucleic acid sequence not shown; not compared with conceptual translation
                                                                                                                                                                  A; Gene: BR3
                                                                                                                                                                                                                                                                                     A; Status: not compared with conceptual translation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cross-references: GDB:3890883; OMIM:601528
  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     304
                      Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGPHKELDRNSCQCVCKNKLFPSQCGANREFDENTCQC 341
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                l Similarity
15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                        30.0%;
                                                                                                                      Balbiani ring proteins
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Score 71;
Pred. No. :
5; Mismatcl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 74; DB
Pred. No. 0.25
6; Mismatches
    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
0.25;
                                              DB 2; Length 1700;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PIDN:AAB02909.1; PID:g1373427
    11;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 419;
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    Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'n
    8
       Gaps
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C;Species: Chironomus tentans
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽, ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: DNA
A; Residues: 1-69 <CUL>
A; Cross-references: GB.L.29056; NID:g499891; PID:g499892
R; de Haan, M.; Grivell, L.A.; Maarse, A.C.
submitted to the Protein Sequence Database, July 1996
A; Reference number: $66877
A; Accession: $66897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Saccharomyces cerevisiae
C;Date: 11-Nov-1994 *sequence_revision 11-Nov-1994 *text_change 12-Dec-1997
C;Accession: A55011; (566897
R;Culotta, V.C.; Howard, W.R.; Liu, X.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-160 <DIG>
A; Cross-references: GB:M24160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gene 88, 133-140, 1990
A;Title: Balbiani riig 3 in Chironomus tentans
A;Reference number: "Q0542; MUID:90269600
A;Accession: JQ0542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 metallothionein-like protein YOR031w - N,Alternate names: protein O2675
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                                              δÃ
                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: DNA;
A;Residues: 1-8 <DEH>
A;Cross-references: EMBL:Z74939; MIPS:YOR031w
A;Experimental source: strain S288C
A;Note: in strain S288C YOR031w is a pseudoge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              J. Biol. Chem. 269, 25295-25302, 1994
A;Title: CRS5 encodes a metallothionein-like
A;Reference number: A55011; MUID:95014318
A;Accession: A55011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Accession: JQ0542
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N;Alternate names: balbiani ring 3 protein
                                                                                                                                                                                                                   A; Description: involved
                                                                                                                                                                                                                                                                                     A; Map position: 15R
                                                                                                                                                                                                                                                                                                                A;Gene:
                                                                                               Query Match
Best Local Similarity
Matches 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                                                                                            Function:
                                                                                                                                                                                                                                                                                                                                       Genetics
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123 INTCACGCGIDKPSCPKQQIYNWKTCDCECP 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CERRKHLEVQTCKCSCKNTDSRCKARQLENERTCRCDKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9 VOTCKCSCKNFDSRCKARQLENERTCRCDKP 39
                                                                                                                                                                                                                                                                    YOR031w
       EKCKCDHSTGSPQCKSCGEKCKC----ETTCTCEKSK 63
                                                 QTCKC-----SCKNTDSRCKARQLENERTCRCDKPR 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Case, S.T.
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                                                                                                    Conservative
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                                                                                                                                                                                                                   in copper homeostasis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29.5%;
                                                                                                                          25.7%;
                                                                                                  Score 61; DB Pred. No. 2; 5; Mismatches
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                             pseudogene with an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               yeast (Saccharomyces cerevisiae)
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integumentary mucin B.1 - African clawed frog (fragment)
C;Species: Xenopus laevis (African clawed frog)
C;Date: 17-Aug-1990 *sequence_revision 06-Nov-1992 *text_change 09-Sep-1997
C;Accession: A35281
R;Probst, J.C.; Gertzen, E.M.; Hoffmann, W.
Blochemistry 29, 6240-6244, 1990
A;Title: An integumentary mucin (FIM-B.1) from Xenopus laevis homologous will A;Reference number: A35281; MUID:91002513
A;Accession: A35281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries (dome: C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text. C;Accession: S57956
R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M. submitted to the EMBL Data Library, July 1995
A;Reference number: S57956
A;Accession: S57956
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A;Residues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1;
C;Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
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A;Accession: A33787
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A; Residues: 1-146 < RED>
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                                                                                                            A;Cross-references: GB:J02910; NID:g214145; PID:g214146
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A; Residues: 1-398 <PRO>
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Pred. No. 2.9;
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    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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4 salmo salar
7 xenopus lae
8 drosophila
2 entamoeba h
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P49151;
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PIR;
PIR;
                                                                                                                                                                                                      endothelial growth factor.";
Biochim. Biophys. Acta 1260:235-238(1995).
-I- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION.
PERMEABILITY (BY SIMILARITY).
                        EMBL;
                                                                             between the Swiss Institute of Bioinformatic
the European Bioinformatics Institute. Thei
use by non-profit institutions as long a
modified and this statement is not removed.
                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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VASCULAR ENDOTHELIAL GROWTH FA
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PFAM; PF00341; PDGF; 1.
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 INTERPRO; IPRU
PFAM; PF00341;
                                                                      entities requires a license agreement
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                                                         send an email to license@isb-sib.ch).
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                                                                                                                                                                     SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
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A33787; I
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                                                                                                                                                             SIMILARITY).
                        X81380; CAA57143.1;
P15692; 2VGH.
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34, Last annotation update)
IAL GROWTH FACTOR PRECURSOR
OR) (VPF).
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RESULT
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P16612;
01-AUG-1990
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CARBOHYD
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Palisi T.
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01-AUG-1990 (Rel. 15,
01-OCT-1996 (Rel. 34,
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                                                      EMBL; M32167; AAA412;
PIR; A35987; A35987.
HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                               Palisi T.M., Hope D.A., Thomas K.A.;
"Amino acid and cDNA sequences of a vascular endothelial
that is homologous to platelet-derived growth factor.";
proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND E
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
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VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
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                                                                                                                             use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
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                                                                                                                                                                                                                                                                                                                                                                                                                                        Mammalia; Eutheria; Rodentia;
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                                                                                                      entities requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                             TISSUE SPECIFICITY: EXPRESSED IN THE PITUTTARY, IN BRAIN, I PARTICULARY: IN SUPRAOPTIC AND PARAVENTRICULAR MUCLEI AND THE CORDUS LAISO FOUND ABUNDANTLY IN THE CORPUS LUTEUM THE OVARY AND IN KIDNEY GLOMERULI.
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SUBCELLULAR LOCATION: SECRETED BUT REMAINS .
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED
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PS50278;
Growth fa
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PDGF_2;
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90.9%;
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCWAC. . .) (POTENTIAL).
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Murinae; Rat
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PROSITE;

PS00245; PDGF_1; PS50276; PDGF_2;

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factor;

Glycoprotein;

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INTERPRO;

PRO; IPR000072; -. PF00341; PDGF; 1.

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Matches
VEGF-3 REMAINS CELL-SURFACE
HEPARIN.

-I- ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE
PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE
LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED
TO CELL-ASSOCIATION/HEPARIN-BINDING.

-I- TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN
THE CHOROID PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, PLACENTA AND
KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL
GLAND AND IN SEMINIFEROUS TUBBLES OF TESTIS. HIGH EXPRESSION OF
VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS.

STMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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                                                                                                                                                                                                                                                         Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore I "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional regulatory sequences.";
J. Biol. Chem. 271:3877-3883(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Breier G., Albrecht U., Sterrer S., "Expression of vascular endothelial angiogenesis and endothelial cell dipevelopment 114:521-532(1992).
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01-APR-1993 (Rel. 25, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
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"Vascular endothelial growth factor. Regulation by cell
differentiation and activated second messenger pathways.";
J. Biol. Chem. 267:16317-16322(1992).
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FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
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Eutheria;
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LOCATION: VEGF-1 AND VEGF-2
INS CELL-SURFACE ASSOCIATED U
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Rodentia;
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
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thelial growth factor du
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Pred. No. 1.4e-17;
D; Mismatches 0;
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Sciurognathi; Muridae;
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; Murinae; Mus.
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Matches 40
                  VEGF_HUMAN STANDARD
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01-APR-1990 (Rel. 14, I
15-JUL-1999 (Rel. 38, I
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EMBL; $38083; AAB22253.1;
EMBL; $38100; AAB22254.1;
EMBL; $98100; AAB42254.1;
EMBL; $495200; AAA40547.1;
EMBL; $495200; AAA40547.1;
EMBL; $43351; A43351
PIR; A43351; A43351
HSSP; P15692; 2VGH.
MGD; MGJ:103178; VEGF.
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Connolly I "Vascular PDGF.";
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VEGF OR VEGFA.
Homo sapiens (Human).
Homo sapiens (Human).
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Chordata;
Primates;
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SIGNAL
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Leung D.W., Cachianes
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Connolly D.T., Olander J
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Fiebich B.L., Jaeger
Kochs G., Marme D., F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Siegel N., Haymore B.L., Leimgruber R., Feder J.; "Human vascular permeability factor. Isolation from U937 J. Biol. Chem. 264:20017-20024(1989).
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"AIDS-associated Kaposi's sarcoma
endothelial growth factor.";
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"Crystal structure of the complex be
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MEDLINE; 93145946.
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"Solution structure of the heparin-binding domain of vascular endothelial growth factor."; structure 6:637-648(1998).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                           Fairbrother W.J.,
Starovasnik M.A.;
                                                                                                                       "1H, 13C, and 15N backbone assignment receptor-binding domain of vascular enerotein Sci. 6:2250-2260(1997).
                                                                                                                                                                                       MEDLINE;
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SUBUNIT: HONODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT REMAINS A
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED
SIMILARITY).
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ALTERNATIVE SPLICING (
VEGF-189 AND VEGF-215)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                M63971; AAA36804.1; M63973; AAA36804.1; M63974; AAA36804.1; M63974; AAA36804.1; M63975; AAA36804.1; M63977; AAA36804; M63977; AAA36804; M63977; AAA36804; M63977; M63977; M63977; M63977; M63977; M63977; M639
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ERRKHLFVQDFQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                  ERRKHLFV---
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F00341; PDGF; 1.
; PS00245; PDGF_1;
; PS50276; PDGF_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       non-profit institutions us and this statement is not removed and this statement is not removed. (See
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0341; PDGF;
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81; AAA36807.1;
78; AAA36804.1;
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K -> N (IN ISOFORM VEGF-121 AND VEGF-165).

MISSING (IN ISOFORM VEGF-165).

MISSING (IN ISOFORM VEGF-121).

MY; 7B9759AD5871FF33 CRC64;
                                                                                                                  Score 206; DE Pred. No. 1.6e 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                There are no rest
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RESULT 6
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HSSP; P15692;
INTERPRO; IPRO
                                                                                                                                                         P52582; Q91420;
01-OCT-1996 (Rel. 34, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DISULFID
DISULFID
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SEQUENCE
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Gallus gallus (Chicken), and
Coturnix coturnix japonica (Japanese quail)
Eukaryota; Metazoa; Chordata; Craniata; Ver
                                                                                                                                                                                                                                                                                                                                                                 CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. There are no rest use by non-profit institutions as long as its content
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-!- FUNCT:
                                                                                                                                  PERMEABILITY FACTOR) (VPF).
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PERMEABILITY.

SUBUNIT: HOMODIMER, DISULFIDE-LINKED.

SUBCELLULAR LOCATION: SECRETED BUT REMAINS A

SUBCELLULAR MATRIX UNLESS RELEASED
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: GROWTH FAC: CELL GROWTH. INDUCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RPRO; IPR000072; -.; PF00341; PDGF; 1.
ITE; PS00249; PDGE_1; 1.
ITE; PS50278; PDGF_2; 1.
                                                                                                                                                                                                                                                                                                                                CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through a ceen the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         l Similarity
39; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (XXX-1992)
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FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
UCES ENDOTHELIAL PROLIFERATION AND VASCULAR
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The systemicantry of the systemic
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Hystricognathi; Caviidae;
                                                                                                                                                                                                                                                                                                                                PRT;
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      Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
2.8e-17;
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                                                                                                                                                                   (VEGF) (VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
dae; Cavia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             restrictions
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SEQUENCE
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Dev. Biol. 171:399-414(1995).
                                                                                                                                                                                      PROSITE; PROSITE;
                                                                                                                                                                                                                                            EMBL; AB011078; BAA24925.1; -. EMBL; S79680; AAB35371.1; -. HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                 use by non-profit institutions as long as its content modified and this statement is not removed. Usage by ar entities requires a license agreement (See http://www.isb-
                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the El the European Bioinformatics Institute. There are no resti
                                                                                                                                                                                                                                                                                                                                                                                                                                                         PERMEABILITY.

PERMEABILITY.

SUBUNIT: HOWODIMER, DISULFIDE-LINKED (BY SIMILARITY).

ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146 AND VEGF-166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CELL RETENTION SIGNAL.

PRISTURE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART AND LIVER. IN KIDNEY GLOMERULI, BRAIN AND YOLK SAC, VEGF-166 FORM IS TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Vascular endothelial growth factor (VEGF) and VEGF receptor (flk-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo.";

Dev. Biol. 169:699-712(1995).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGGENESIS, AND ENDOY CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION AND VASCUI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            [1]
SEQUENCE FROM N.A.
TISSUE-HEART;
                                                                                                                                                                                                                                                                                                   or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Flamme I., Breier G., Risau W.;
"Vascular endothelial growth fa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SPECIES-C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 60-187 FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (FEB-1998) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Takahashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Archosauria;
                                                                                                                                               CHAIN
                                                                                                                                                           SIGNAL
                                                                                                                                                                       Mitogen;
                                                                                                                                                                                                                                 INTERPRO; IPR000072; -
                                                                                                                                                                                                                                                                                                                                                                                                                 -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE; 95301109.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE; 96005007
                                                                                                                                                                                                                                                                                                                                                                                                                              AND IS UPGRADED DURING GASTRULATION. EXPRESSION FORM IS DETECTABLE ONLY FROM DAY 2.
                                                                                                                                                                        Growth
                             b
                                                                                                                                                                                    PS00249; PDGF_1; PS50278; PDGF_2;
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166
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                                                                                 Glycoprotein; Alternative splicing; Signal.
BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
  WW;
                                                                                                                                                                                       N-LINKED (GLCNAC...) (POTENTIAL).

K -> N (IN ISOFORM VEGF-166).

F -> L (IN ISOFORM VEGF-146).
                 MISSING
 ISSING (IN ISOFORM VEGF-146).
82E669C2F6FC6DA7 CRC64;
                                                                                                                                                                                                                                                                                                               moved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Phasianidae; Phasianinae;
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Query Match Best Local Similarity

80

Score Pred.

190; DB 1; No. 1.1e-15;

Length

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SOTTEN REPORTED DESCRIPTION OF THE STREET OF
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VEGB_MOUSE
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                                                                                Query Match
Best Local
                                                         Matches
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"Characterization of the murine VEGF-related factor gene.";

"Characterization of the murine VEGF-related factor gene.";

Biochem. Biophys. Res. Commun. 220:922-928(1996).

-!- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.

-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Olofsson B., Pajusola K., Kaipainen A., von Euler G., Joukov Saksela O., Orpana A., Pettersson R.F., Alitalo K., Eriksson "Vascular endothelial growth factor B, a novel growth factor endothelial cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-1996 (Rel. 34, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WITH VEGE.

- IS SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.

- IT SISUE SPECIFICITY: ABUNDANTLY EXPRESSED IN HEART, BRAIN, KIDN AND SKELETAL MUSCLE.

- IT SIMILARITY: BELONGS TO THE PDGE/VEGF FAMILY OF GROWTH FACTORS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
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                                                                                                                                                                                                                                                  SIGNAL
                                                                                                                                                                                                                                                                       PROSITE; PS00249; PDGF_1; 1.

PROSITE; PS50278; PDGF_2; 1.

Mitogen; Growth factor; Signal; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                          MGD; MGI:106199; VEGFB.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entities requires a license agreement (Some send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Proc. Natl. Acad. Sci. U.S.A. 93:2576-2581(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalia; Eutheria;
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U43837; AAC52553.1; -.
P15692; 2VGH.
     ERRKHLFVQTCKCSCKNTD-SRCKARQLE-NERTCRCDKPRR
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188 AA;
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42.9%;
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7; Mismatches
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                                                                                                                                                                                                 D52A055FB995E9CA CRC64;
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RESULT 9
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Matches 17
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SIGNAL
CHAIN
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Homo sapiens (Human).
Homo sapiens (Human).
Chordata;
Metazoa; Chordata;
Metazoa; Primates;
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or send a
                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Extended the European Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                       -!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.
-!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.
-!- HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-1996 (Rel.
01-OCT-1996 (Rel.
15-DEC-1998 (Rel.
                                                                                                                                                                                          EMBL; U48801; AAB06274.1; -.
EMBL; U43369; AAA91463.1; -.
HSSP; P15692; 1VPF.
MIM; 601398; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Olofsson B., Pajusola K., Kaipainen
Saksela O., Orpana A., Pettersson R.
"Vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VASCULAR ENDOTHELIAL GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Proc. Natl. Acad. Sci.
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                                                                                                  SEQUENCE
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                                                                                                                                                                                INTERPRO;
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           QTCKCSCKNTD-SRCKARQLE-NERTCRCDKPRR 41
RTCRCRCRRSFLRCQGRGLELNPDTCRCRKLRR
                                           . Similarity 50. 17; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FROM N.A.
96197355.
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00341; EDGF; 1.
PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
Growth factor; Signal; Heparin-binding.
1 21 POTENTIAL.
                                                                                                                                                                                                                                                   requires a license agreement (S an email to license@isb-sib.ch).
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188 AA;
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34, Last sequence up
37, Last annotation
                                                                                                  188
21261
                                                       33.8%;
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                                                                                                   , MW
                                          Score 80; DB
Pred. No. 0.00
4; Mismatches
                                           4
                                                                                                 VASCULAR ENDOTHELIAL GROWTH FACTOR : F04654D5A3727194 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                               novel human gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A., von Euler G., Joukov .F., Alitalo K., Eriksson B, a novel growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         update)
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  188
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Nordenskjoeld
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HETERODIMER
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P49767;
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01-
                                              PRINTS; PRO0438; GFCYSKNOT.
PRINTS; PRO0249; PDGF_1; 1.
PROSITE; PS00249; PDGF_2; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Growth factor; Glyc
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                                                                                                                                                                                                                                              EMBL; X94216;
EMBL; U43142;
EMBL; U58111;
HSSP; P15692;
                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "A novel vascular endothelial grow
the Flt4 (VEGFR-3) and KDR (VEGFR-
EMBO J. 15:290-298(1996).
      SIGNAL
PROPEP
CHAIN
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HOmo sapiens (Human).
'arvota; Metazoa; Chordata; 'heria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
01-0CT-1996 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 39, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR (VEGF-C) (VASCULAR ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRP) (FLT4 LIGAND) (FLT4-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tee J., Gray A., Yuan J., Luoh S.-M., Avraham H., Wood W.I.;
"Vascular endothelial growth factor-related protein: a ligand
specific activator of the tyrosine kinase receptor Flt4.";
Proc. Natl. Acad. Sci. U.S.A. 93:1988-1992(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Joukov V., Pajusola K., Kai
Saksela O., Kalkkinen N., A
EMBO J. 15:1751-1751(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. AND MEDLINE; 96178224.
Joukov V., Pajusola K., Saksela O., Kalkkinen N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wood C.R.;
Submitted (JUN-1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.

Fitz L., Morris J.C., Towler P.S., Long A.J.,
Burgess P., Giannotti J., Ciarletta A., Henne
Fitzgerald M., Scaltreto H., Weich N., Neben
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE; 96203094
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PTM: PROBABLY PROTEOLITICALLY PROCESSED IN THE C-TERMINUS. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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N., Alitalo
Glycoprotein; Signal; Repeat.
POTENTIAL.
POTENTIAL.
VASCULAR ENDOTHELIAL GROWTH FACTOR C.
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Catarrhini;
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ta A., Hennessey D., Kovacic
h N., Neben S., Finnerty H.,
Gassaway R., Turner K.,
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K.;
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NESIS, AND
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BAR3_CHITE STANDARD,
Q03376;
Q03376;
01-OCT-1993 (Rel. 27, Created)
01-OCT-1994 (Rel. 27, Last sequence up
01-OCT-1994 (Rel. 30, Last annotation
01-OCT-1994 PROTEIN 3 PRECURSOR.
                                                                                                                                                                                                                                                     "The Babbiani ring 3 gene in Chironomus tentans has a diverged repetitive structure split by many introns.";

J. Mol. Biol. 211:331-349(1990).

-i- FUNCTION: USED BY THE LARVAE TO CONSTRUCT A SUPRAMOLECULAR STRUCTURE, ITHE LARVAE TOBE. BALBIANI RING PROTEIN 3 COULD FROLE AS A TRANSPORT PROTEIN THAT BINDS TO OTHER PROTEINS INTERCELLULARLY AND IN THE GLAND LUMEN IN ORDER TO PREVENT FROM FORMING WATER-INSOLUBLE FIBERS TOO EARLY.

-i- TISSUE SPECIFICITY: SALIVARY GLAND.

-i- TISSUE SPECIFICITY: SALIVARY GLAND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
CARBOHYD
SEQUENCE
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REPEAT
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REPEAT
REPEAT
CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota;
Pterygota;
                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a c between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                          Repeat; Signal.
SIGNAL 1
                                                      SEQUENCE
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                                                                                                            INTERPRO;
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                                                                                                                                 S08167; S08167
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                                                                                                                                             X52263; CAA36506.1;
. Similarity
15; Conser
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15; Conservative
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1700 AA;
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Metazoa; Arthrop
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has a diverged
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RESULT 12
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REPEAT
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CARBOHYD
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"VEGF-C receptor binding and pattern of expression with VEGFR-3 suggests a role in lymphatic vascular development.";
Development 122:3829-3837(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR (VEGF-C) (FLT4 LIGAND)
                                                                                                   CHAIN
DOMAIN
REPEAT
                                                                                                                                            PROPEP
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                                                                                                                                                                                                                                                                                                                                  between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fitz I.J. Morris J.C., Towler P., Long A., Burgess P., G Wang J., Gassaway R., Nickbarg E., Kovacic S., Ciarletta Giannotti J., Finnerty H., Zollner R., Beier D.R., Leak L Turner K.J., Wood C.R.;
"Characterization of murine Flt4 ligand/VEGF-C.";
Oncogene 15:613-618(1997).
-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE; 97164697.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                        MGD; MGI:109124; VEGFC.
INTERPRO; IPR000072; -.
INTERPRO; IPR002400; -.
                                                                                                                                                                                                                                                                              EMBL; U73620; AAC52984.1;
EMBL; U58112; AAB46707.1;
HSSP; P15692; lVPF.
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                                                                                                                                                                                                             PRINTS;
                                                                                                                                                                                                                         PFAM; PF00341; PDGF; 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE; 97388482.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN-BALB/C;
         SEQUENCE
                                                                                                                                                           SIGNAL
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E; PS00249; PDGF 1; 1.
E; PS50278; PDGF 2; 1.
F; Growth factor.
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Rodentia;
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           46471
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        4 (PARTIAL).

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N-LINKED (GLCNAC...

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N-D9D3DD3CECC659D6 (
                                                                                                                  POTENTIAL.
VASCULAR ENDOTHELIAL GROWTH
4 X 24 AA TANDEM REPEATS.
                                                                                                                                                           POTENTIAL.
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S5_YEAST
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CRS5_YEAST
O1-NOV-1995 (Rei. 32, Created)
O1-NOV-1995 (Rei. 32, Last sequence upda
30-MAY-2000 (Rel. 39, Last annotation up
METALLOTHIONEIN-LIKE PROTEIN CRS5.
CRS5_OR YOR031W;
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                    _SHEEP STANDARD; PRT; 146 AA. P50412; Proceed (Rel. 34, Created) 01-OCT-1996 (Rel. 34, Last sequence update) 01-NOV-1997 (Rel. 35, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; L29056; AAA66061.1; -.
EMBL; X87331; -; NOT_ANNOTATED_CDS.
SGD; S0005557; CRS5.
Metal-binding; Metal-thiolate cluster; Chelation.
Metal-binding; Metal-thiolate cluster; Chelation.
SEQUENCE 69 AA; 7321 MW; CEEF91203A813FF4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sorsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     de Haan M., Maarse A.C., Grivell L.A.;
Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
-I- FUNCTION: CRITICAL ROLE IN COPPER (SPECIFIC) HOMEOSTASIS AND
DETOXIFICATION. MAY PROTECT BY DIRECTLY CHELATING AND SEQUES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. MEDLINE; 95014318. Culotta V.C., Howar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Saccharomyces cérevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cerevisiae.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Culotta V.C., Howard W.R., Liu X.F.; "CRS5 encodes a metallothionein-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Saccharomycetaceae;
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12; Conserv
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nilarity 31.6%;
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Ovis aries (Sheep).

Ovis aries (Sheep).

Ovis aries (Sheep).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                          MUB1_XENLA
P38565;
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J. Reprod. Fertil. 108:157-165(1996).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S. Reynolds L.P., Moor R.M.;
"Characterization and expression of vascular endothelial
                                                                                                                                                                              01-OCT-1994 (Rel. 30, Created)
01-OCT-1994 (Rel. 30, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
INTEGUMENTARY MUCIN B.1 (FIM-B.1) (FRAGMENT).
Xenopus laevis (African clawed frog).
                                                                                                                                                                                                                                                                                                                                                                                                       XENLA
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HSSP; P15692; 1VPF.
INTERPRO; IPRO00072; -.
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   SEQUENCE FROM N.A. MEDLINE; 91002513.
                                                                                                                       Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; Me
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIGNAL
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                                                                                             Xenopodinae; Xenopus.
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SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FVQTCKCSCKNTDSRCKARQLENERTCRCDKPRR 41
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PS50278; PDGF_2; 1.
Growth factor; Glycoprotein;
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BY SIMILARITY.

VASCULAR ENDOTHELIAL GROWTH E.

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N-LINKED (GLCNAC. . .) (POTEN

MW; 4E792CB557F91760 CRC64;
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4; Mismatches
                                                                                                                    a; Craniata; Vertebrata; Euteleostomi; Mesobatrachia; Pipoidea; Pipidae;
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0.86;
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-! FUNCTION: COULD BE INVOLVED IN DEFENSE AGAINST MICROBIAL
-! FUNCTIONS: PROTECTS THE EPITHELIA FROM EXTERNAL ENVIRONMENT.
-! SUBCELLULAR LOCATION: SECRETED.
-! TISSUE SPECIFICITY: EXPRESSED AND STORED EXCLUSIVELY IN MATURE
-! TISSUE SPECIFICITY: EXPRESSED AND STORED EXCLUSIVELY IN MATURE
MUCOUS GLANDS OF THE SKIN.
-!- PTM: EXTENSIVELY O-GLYCOSYLATED.
-!- SIMILARITY: CONTAINS 1 C-TERMINAL CYSTINE KNOT-LIKE DOMAIN (CTCK).
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PIR; A35281; A35281.
HSSP; P04355; 4MT2.
                                                                                                                                                                                                                                                                                                                                                                                                                                              modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
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E; PS01225; CTCK_2
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                                                                                                                                                            Conservative
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          November
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225; CTCK_2; 1.
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Listing first 45 summaries
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237
1 CERRKHLFVQTCK
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Copyright (c) 1993 - 2000 Comp
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042572 xenopus lae
088911 rattus norv
073682 brachydanio
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09xx48 bos taurus
094446 chironomus
094438 chironomus
094438 chironomus
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O42654 schizosacch		Q9vya6 drosophila	Q18206 caenorhabdi	Q25635 onchocerca	O57409 brachydanio	O	Q99235 lupinus ang	O13106 brachydanio		Q9s9y9 arabidopsis	074331 schizosacch	097507 sus scrofa			Q49549 mycoplasma	097458 drosophila	Q9w4t8 drosophila	homo	O88799 mus musculu	Q9qxg6 rattus norv	O57352 coturnix co	Q9qxv7 mus musculu	Q9wtp2 mus musculu	O97450 giardia lam	Q23803 chironomus

ALIGNMENTS

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RESULT 2
033672 PRELIMINARY, PRT;
ID 063672 PRELIMINARY, PRT;
AC 063672; Q63882;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
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                                                                                                                                             Query Match 86.9%;
Best Local Similarity 90.9%;
Matches 40; Conservative
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Q9XT61;
01-NOV-1999
01-NOV-1999
01-MAY-2000
                                                                                                                                                                                                                         Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF106942; AAD20589.1; -
INTERPRO; IPRO00072; -
PFAM; PF00341; "DDF; 1.
NON_TER 1
                                                                                                                                                                                                                                                                                          "Constitutive expression of VEGF, VEGFR-1 and VEGFR-2 in normal eyes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                        VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NAY-2000 (TrEMBLrel. 13, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
TISSUE=LUNG;
                                                                                                                                                                                                                                                                                                                                                                                Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                             Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                    Kim I.K., Ryan A.M.,
Adamis A.P.,
                                                                                               59
                                                                                                                      N
                                                                                            102 .A; 12065 MW; 5F2D1A765DC29E02 CRC64;
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Pred. No. 5.3e-22;
0; Mismatches 0
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                                                                                                                                                                       Length 102;
                                                                                                                                                Indels
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Rattus norvegicus (Rat). Eukaryota; Metazoa; Chordata; 01-NOV-1998 (TREMBLIEL 08, 01-MAY-2000 (TREMBLIEL 13, VASCULAR ENDOTHELIAL GROWTH

Last sequence update)
Last annotation update)
FACTOR (VEGF188) (FRAGMENT).

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Best Local S
Matches 40
Cheung C.Y., Brace R.A.;

Cheung C.Y., Brace R.A.;

"Ovine vascular endothelial growth fa
expression in fetal tissues.";

Growth factors 0:0-0(1998).

EMBL; AR071015; AAC23608.1; -.

HSSP; p15692; 2VGH.

INTERPRO; IPR000072; -.

PFAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

PRODOM; PD001629; -; 1.

SEQUENCE 190 AA; 22342 MW; 0D5E3B:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biochem. Biophys. Res. Commun. EMBL; AF062644; AAC16448.1; -. EMBL; L20913; AAA42334.1; -. EMBL; S64321; CAB32322.1; -. HSSP; P15692; 2VGH. INTERPRO; IPR000072; -.
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077643;
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STRAIN-SPRAGUE-DAWLEY; TISSUE-BRAIN;
Yakovlev A.G., Raden A.I.;
Submitted (JUL-1993) to the EMBL/Gen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kim I., Ryan A., Rohan R., Miller J., Adamis A.P.; Submitted (MAY-1998) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mammalia; Eutheria; Rodentia; [1]
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01-NOV-1998 (TrEMBLrel.
01-JUN-2000 (TrEMBLrel.
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                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN-COLUMBIA-RAMBOULLIET;
                                                                                                                                                                                                                                                                                                                                   Bovidae;
                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Cetartiod;
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nes 40; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PF00341; PDGF;
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Cetartiodactyla; Ru
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Last annotation update)
FACTOR.
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Ruminantia; Pecora;
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Query Match

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2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR

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Q9QX39;
01-MAY-2000
01-MAY-2000
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INTERPRO; IPRO0(072; -.
PEAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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Eukaryota; Metaboa; Chordata; (
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (MAR-1999) to the EMBL; AF133248; AAD29682.1; INTERPRO; IPRO00072; - PFAM; PFO0341; PDGF; 1.
                                                                                                                                                                                             MEDIINE; 99313148.

Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;

Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;

"Adaptive hypoxic tolerance in the subterranean mole rat Spalax ehrenbergi: the role of vascular endothelial growth factor.";

FEBS Lett. 452:i33-140(1999).

EMBL, AF186236; AAD56245.1; -.
                                                                                                                                                                                                                                                                                                                                                                    Spalax.
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                                                                                                                                                                                                                                                                                                                                                                                                  Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
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SEQUENCE 190 AA; 22292
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(TIEMBLIE1. 13, Last sequence update)
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)OTHELIAL GROWTH FACTOR.
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Pred. No. 8.7e-22;
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ia; Canidae;
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01-NOV-1999
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-AUG-1998
01-MAY-1999
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /Burian
VEGF.
Homo sapiens (Human).
Homo sapiens (Human).
Homo sapiens (Human).
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Vermmalia: Eutheria; Carnivora; Fissipedia; Canidae; Canis.
    Signal.
SIGNAL
CHAIN
SEQUENCE
                                                                                                                                                                     Jingjing L., Roque R.S.;
Submitted (MAY-1998) to the
EMBL; AJ010438; CAA09179.1;
EMBL; AF062645; AAC16730.1;
HSSP; P15692; 2VPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 208 AA; 24400
                                                                                                                                                                                                                                                                                                                                                                Lei J., Jiang A., Pei D.;
"Identification and characterization
vascular endothelial growth factor: V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AF133249; AAD29683.1; INTERPRO; IPR000072; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the
                                                                                                                                                                                                                                                                                TISSUE-RETINA;
                                                                                                                                                                                                                                                                                                      SEQUENCE OF 114-209 FROM N.A.
                                                                                                                                                                                                                                                                                                                                            Biochim. Biophys. Acta, Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE; 99096474.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
TISSUE-KIDNEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEGF183 PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        060720;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              060720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VASCULAR ENDOTHELIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9XSF4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9XSF4
                                                                                   PRODOM;
                                                                                                                                    PFAM;
                                                                                                              PROSITE;
                                                                                                                               INTERPRO; IPR000072; -. PAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
40; Conserv
                                                                                   PS00249; PDGF; 1. PD001629; -; 1.
1
27
209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 (Tremblrel. 12, 0
9 (Tremblrel. 12, 1
0 (Tremblrel. 14, 1
NDOTHELIAL GROWTH I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrembLrel. 07, Created)
(TrembLrel. 10, Last sequence update)
(TrembLrel. 14, Last annotation update)
TEIN PRECURSOR (VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY
      Ą
    26
209
24422
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      WW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 206; DB Pred. No. 9.4e 0; Mismatches
                                                                                                                                                                                               .•
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
FACTOR 182.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
                                                                                                                                                                                                                                         EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                Struct.
    POTENTIAL.
VEGF183 PROTEIN.
F01CCEACD945D6CA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
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VEGF183.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 6;
.4e-22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₿
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                                                                                                                                                                                                                                                                                                                                                                        83. "
                                                                                                                                                                                                                                                                                                                                                                                      splicing variant
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Euteleostomi;
Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FACTOR 183).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4;
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RESULT RE
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Best Local S
Matches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 40;
                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local 9
   Matches
                                                                                                                                                                                          Q9XSF5
Q9XSF5;
Q1-NOV-1999
Q1-NOV-1999
Q1-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9QXG7;
Q9QXG7;
01-MAY-2000 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEG: VEG: (Dog).
Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; C
Eukaryota; Metazoa; Carnivora;
                                                                                                                                       PROSITE;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PEAM; PEOGO341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 214 %A; 25151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the
EMBL; AF133250; AAD29684.1;
INTERPRO; IPRO00072;
PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-WAY-2000 (TEEMBLIE) 13, Created)
01-WAY-2000 (TEEMBLIE) 13, Last seq
01-UN-2000 (TEEMBLIE) 14, Last ann
VASCULAR ENDOTHELIAL GROWTH FACTOR-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1999 (Tremblrel. 12, 01-NOV-1999 (Tremblrel. 12, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                              ishii H., Arakawa T., Okayama M., Oota
Developmental expression of vascular e
(VEGF-A) splicing variants, VEGF-A188,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
|||||||||
ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ch 86.9%;
l Similarity 90.9%;
40; Conservative
   40;
                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                          PS00249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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                                                                                                                                          A,
                                                                                                                                          PDGF; 1.
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90.9%;
                           90.9%;
                                                                                                                                          MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
FACTOR-A188.
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Last annotation update)
FACTOR 188.
                                                                                                                                                                                                                                                             EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
Score 206; DE
Pred. No. 9.6e
0; Mismatches
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0
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Pred. No. 9.6e-22;
0; Mismatches (
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Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vez; Fissipedia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Veri
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                          60FBB876F5304946
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No. 9
                                                                                                                                                                                                                                                                                                                                              ta I., Takuma
r endothelial
8, VEGF-Al64,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vertebrata; Euteleostomi;
thi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vertebrata; Euteleostomi; ia; Canidae; Canis.
                           DB 11;
.6e-22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4;
.4e-22;
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                                                                                                                                                                                                                                                                                           databases
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                                                                                                                                             CRC64;
                                                      Length
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   Indels
                                                         214;
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Gaps
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[1]
SEQUENCE FROM N...
SEDLINE; 92168017.
K.A., Ferrara N., Wanger and Company of the Co
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01-NOV-1998
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MASCULPAN --- (Human).
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Eukaryota; Metazoa; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       075875
075875;
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Homo sapiens (Human).

Homo sapiens (Human).

Charvota; Metazoa; Chordata;

Charvota; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q16889;
Q16889;
                                                                                                               Claffey K.P., Shih S.-C., Mullen A., Dziennis Abrams K.R., Lee S.W., Detmar M.;
"Identification of a human VPF/VEGF 3' untrans hypoxia-induced mRNA stability.";
Mol. Biol. Cell 9:469-481(1998).
EMBL; AF022375; AAC63143.1; -.
HSSP: P15692; 1VPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1998 (Tremblrel. 08, 01-NOV-1998 (Tremblrel. 08, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                MEDIINE; 98119755.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INTERPRO; IPR000072; PFAM; PF00341; PDGF; PROSITE; PS00249; PDG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          211
                                                                                  INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  [SSUE=BREAST;
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BL; S85192; AAC63102.1;
BL; S85224; AAC63101.1;
BS55199; AAC63101.1;
BS5201; AAC63101.1;
L; S85219; AAC63101.1;
L; S85222; AAC63101.1;
L; S85224; AAC63101.1;
L; S85224; AAC63101.1;
L; S85224; AAC63101.1;
L; S85224; AAC63101.1;
L; S85244; AAC63101.1;
L; S8544; AAC63101.1;
L; S8544; AAC63101.1;
L; S8544; AAC63101.1;
L; S8544; AAC63101.1;
L; S
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ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ch 86.9%;
l Similarity 90.9%;
40; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 254 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
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Last annotation update)
FACTOR (FRAGMENT).
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FACTOR.
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Pred. No. 1.1e-21;
0; Mismatches 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Catarrhini; Hominidae;
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                                                                                                                                                                                                                                                                                                                                                                   S., Cusick J.L.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Euteleostomi;
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; Homo.
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fication of
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Best Local S
Matches 39
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Best Local Similarity 74.5%;
Matches 38; Conservative
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042572;
01-JAN-1998
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Submitted (JUN-1997) to the
EMBL; AF008594; AAB63680.1;
HSSP; P15692; 2VGH.
                                                                                                                                 Buttyan R., Shabsigh R.;
"Expression of Messenger RNA Splice Variants for Vascular Growth Factor in the Adult Rat and Human Penis.";
Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF080594; AAC36708.1; -.
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Amphibia; Batrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VASCULAR
PFAM; PF00341; PDGF; PROSITE; PS00245; PD0 NON_TER 1;
                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat)
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INTERPRO; IPR000072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF; 1. PRODOM; PD001629; -; 1.
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                                                          HSSP; P15034, ...
INTERPRO; IPR000072; -.
                                                                                                                                                                                                                                                                                                                 STRAIN-SPRAGUE-DAWLEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VASCULAR ENDOTHELIAL
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Bukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                       Burchardt M., Burchardt
                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        194 IA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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     PDGF;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22672
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                                                                                                                                                                                                                                                                                       TISSUE=PENIS;
t T., Chen M.-W.,
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14,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mesobatrachia;
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Last sequence update)
Last annotation updat
FACTOR A 110 PRECURSO
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EMBL/GenBank/DDBJ dat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 190; DB
Pred. No. 1.6e
2; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
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ia; Pipoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 4;
.5e-21;
                                                                                                                                                                                                                                                                                       Shabsigh
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.6e-19;
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; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
Murinae; Rat
                                                                                                                                                                                                                                                                                          de
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SEQUENCE

110 AA;

12713 MW;

B81B79AC08D89F06 CRC64;

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O73682
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DT 01-AUG
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DT 01-UN
OE WASCUL
GN VEGF
OS Brachy
OC Eukary
OC Actino
OC Cyprin
RN [1]
RP SEQUEN
RX MEDLIN
RA Lam T.
RT (VEGF)
RT (VEGF)
RT (VEGF)
RT (VEGF)
RT EMBL;
DR FRODOM
SQ SEQUEN
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Q9UL23
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Best Local Similarity 72.1%;
Matches 31; Conservative
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biochim. Biophys. Acta 1397:14-20(
EMBL; AF016244; AAC41274.1; -.
HSSP; P15692; 2VGH.
ZFIN; ZDB-GENE-990415-273; vegf.
INTERPRO; IPR000072; -.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PRODOM; PD001629; -; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 188 AA; 21756 MW; FD2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9UL23;
                     "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA and receptor mRNA expression in human glomeruli, and the identification of VEGF148 mRNA, a novel truncated splice variant."; Clin. Sci. 97:303-312(1999).
                                                                                                                                                                                                                                                                                                                                                            01-MAY-2000 (TIEMBLIEL 13, Created)
01-MAY-2000 (TIEMBLIEL 13, Last sequence update)
01-JUN-2000 (TIEMBLIEL 14, Last annotation update)
VASCULAR PERMEABILITY FACTOR 148.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Liang D., Xu X., Chin A.J., Balasubramaniyan N.V., Teo M.A.L., Lam T.J., Weinberg E.S., Ge R.; Teoning and characterization of vascular endothelial growth factor (VEGF) from zebrafish, Danio rerio.; (VEGF) M. Zebrafish, Danio 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Brachydanio rerio (Zebrafish) (Zebra danio).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Brachiopterygii; Melosytei; Buteleostei; Ostariophysi;

Cypriniformes; Cyprinoidea; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-AUG-1998 (TIEMBLIEL. 07, Created)
01-AUG-1998 (TIEMBLIEL. 07, Last sequence update)
01-JUN-2000 (TIEMBLIEL. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR ISOFORM 165.
                                                                                                                                                                                                                                                                                                            Homo sapiens (Human).
Eukaryota; Metazoa; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. MEDLINE; 98222600.
                                                                                                                                                         TISSUE=GLOMERULI; whittle C.J., Gillespie K.M., Harrison
                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   073682;
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                                                                                                                                          Harper S.J.;
                                                                                                                                                                                                                                                                                       Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             146 ERRKRLYVQDPLTCKCSCKFTQMQCKSRQLELNERTCRCEKPR 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 ERRKHLFVQ---TCKCSCKNTDSRCKARQLE-NERTCRCDKPR 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9 VQTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41 :||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 110
AF091352;
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32; Conserv
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                                                                                                                                                                                                                                                                                    Chordata; Primates;
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Pred. No. 3.7e-15;
4; Mismatches 4;
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Pred. No. 8.3e-18;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                    Craniata; Vo
Catarrhini;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      174
                                                                                                                                                                     R., Mathieson P.M.,
                                                                                                                                                                                                                                                                                    Vertebrata; Euteleostomi;
i; Hominidae; Homo.
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Best Local s
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                                                                                                                                                         INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 174 AA; 20218 MW;
                                                         148 ERRKHLFVQDPQTCKCSCKNTDSRCK 173
                                                                     2 ERRKHLEV---QTCKCSCKNTDSRCK 24
                                                                                                            Similarity
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                                                                                                              51.3%;
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Pred. No. 6.9e-10;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         on:
       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being pri and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
                                                                                                                                             46.5
                                                                                                                                                             length: 0
length: 2000000000
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1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
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Match
     BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182106 seqs, 63460219 residues
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138
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   S521551
S521531
B44881
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A35987
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B4953
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ALIGNMENTS

	RESULT 1
	vascular endothelial growth factor 206 precursor - human
	N;Alternate names: vascular permeability factor N;Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; VE
	C:Date: 28-Aug-1992 #sequence revision 28-Aug-1992 #text change 05-Nov-1999
	C:Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; JQ1463; R:Honek K A : Ferrara N : Winer T : Cachianes C : I B : Leung D W
	A;Title: The vascular endothelial growth factor family: identification of a fourth mo
	A; Recession: A41551
ט	A; Molecule type: mRNA
rinted,	A, Cross-references: 3B:885192; NID:q246155; PID:q246156
	A;Status: nucleic acid sequence not shown
	A; MOLECULE Type: mRNA A; Residues: 1-140, 'N', 183-232 < HOU2>
	A; Accession: B41551
	A, Molecule type: mRNA A: Molecule type: mRNA
endotheli	A; Residues: 1-141,227-232 < HOU>
endotheli	R;Tischer, E.; Micchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.;
endotheli	A; Title: The human game for vascular endothelial growth factor. Multiple protein form
endotheli	A; Reference number: A40454; MUID:91268072
ordothold	A:ACCESSION: A40404
rived vas	A; Residues: 1-165,183-232 <ti1></ti1>
endotheli	A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976;
growth f	A; Molecule type: DNA
growth f	A; Residues: 1-140,'N',183-232 <ti2></ti2>
endotheli	A;Cross-references: 3B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977;
n resista	A; Molecule type: DNA.
reonine-p	A; Residues: 1-141,227-232 < T13>
cal prote	R.Reck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connoity, D.
	Science 246, 1309-1312, 1989
cal prote	A; Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.
tive phos	A; Accession: A40079 ATOURS AND ACCESSION: A CONTROL ACCESSION A CONTROL ACCESSION ACC
cal prote	A;Status: not compared with conceptual translation
cal prote	A; Molecule type: mRNA
oxidoredu	A; restures: 1-165,163-334 < REC-> A: CTOSS-Teferences: GB: M27281: NID: q340300: PIDN: AAA36807.1: PID: q340301
cal prote	R; Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
cal prote	Science 246, 1306-1309, 1989 A. Title. Vascular endotherial growth factor is a secreted angiorenic mitogen
avy chain	A/TITIE: VASCULAT ENGOTHETIAL GROWTH TACTOR IS A SECRETED ANGIOGENIC MILOGEN.

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A; Accession. Protein
A; Molecule type: protein
A; Residues: 27-36;43-49, 'R';72-76,'Q',78-81;59-71 <CON>
A; Residues: 27-36;43-49, 'R';72-76,'Q',78-81;59-71 <CON>
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A; Residues: 1-140, 'N', 227-232 <WE2>
A; Residues: 1-140, 'N', 227-232 <WE2>
A; Residues: 1-140, 'N', 227-232 <WE2>
A; Resperimental source: AIDS-Raposi's sarcoma cell
R; Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.;
J. Biol. Chem. 264, 20017-20024, 1989
A; Title: Human vascular permeability factor. Isolation from U937 cells.
A; Reference number: A34492; MUID:90062112
A; Accession: A34492
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A; Residues: 1-140, 'N', 183-232 <WEI>
A; Cross references: EMBL: X62568; NID: q37658;
A; Experimental source: AIDS-Kaposi's sarcoma
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Biochem. Biophys. Res. Commun. 183, 1167-1174,
A; Title: AIDS-associated Kaposi's sarcoma cell:
A; Reference number: JQ1463; MUID:92231879
A; Accession: JQ1463
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A;Accession: A40080
A;Status: not compared with conceptual tr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Accession: S52130
R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw,
Biochim. Biophys. Acta 1260, 235-238, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Nucleotide sequence and expression of A; Reference number: S52130; MUID:95143284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vascular endothelial growth factor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
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                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:X81380; NID:g587559;
                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-190 <SHA>
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Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
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96.2%;
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                                                                A; Molecule type: mRNA, A; Residues: 1-140,205-214 <BR2>
A; Residues: 1-140,205-214 <BR2>
A; Residues: 1-140,205-214 <BR2>
A; Residues: CB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
A; Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBID:107625)
A; Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBID:107625)
A; Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, PJ. Exp. Med. 172, 1555-1545, 1990
A; Title: Vascular permeability factor: a tumor-derived polypeptide that inv
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A; Note: sequence extracted from NCBI backbone
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A;Reference number: A61029; MUID:91197543
A;Accession: A61029
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Experimental source; embryo
A;Note: sequence extracted from NCBI backbone (NCBIN:107
R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16317-16322, 1992
A;Title: Vascular endothellal growth factor. Regulation
A;Reference number: A43351; MUID:92355593
A;Accession: A43351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 *text_change
C;Date: 03-Feb-1994 *text_change
C;Accession: B44861; A43351; A61029
R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A;Title: Expression of vascular endothelial growth factor during
A;Reference number: A44881; MUID:92274860
                                                                                                                                                                                                        vascular endothelial growth factor-3 precursor - mouse
N;Contains: vascular endothelial growth factor-2; vascular permeability factor
C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 *Sequence_revision 03-Feb-1994 *text_change 08-Oct-1999
C;Accession: A44881; C44881; A60932; S52136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: protein
A; Residues: 27-38 <ROS>
C; Keywords: alternative splicing;
                                                                                                         R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W. Development 114, 521-532, 1992
A;Title: Expression of vascular endothelial growth factor during embryonic angiogenes A;Reference number: A44881; MUID:92274860
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                           A; Molecule type: mRNA
A; Residues: 1-214 <BRE>
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A; Residues: 1-190 <BRE>
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GB:S37052; NID:g249856; PIDN:AAB22252.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           88.4%;
                                                                                                                                                                                       ; A60932; S52136
Sterrer, S.; Risau,
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No. 8
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.2e-12;
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, NCBIP:110675)
; Folkman, J.
  PID:g249857
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eximedulally lactor: a tumor-derived polypeptide that induces endot £60932; MUID:91079755

(NCBIN: 104677,

NCBIP:104678)

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A:Status: preliminary
A:Molecule type: mRMA
A:Residues: 1-120 <TIS>
A:Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C:Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: protein
A;Residues: 27-33 <CLA>
R;Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is
A;Reference number: S52136; MUID:95101726
A;Accession: S52136
                                                                                                                                  A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-146 <RED>
                                                                                                                                                                                                           ovine vascular endotherial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon arie C;Date: 13-Jan-1996 #sequence_revision O1-Mar-1996 C;Accession: S57956 #sequence_revision O1-Mar-1998 R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Mos submitted to the EMBL Data Library, July 1995 A;Reference number: S57956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Biochem. Biophys. Res. Commun. 165, 1198-1206, A; Title: Vascular endothelial growth factor: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vascular endothelial growth factor (version 1) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999 C;Accession: A33787
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A; Molecule type: pro
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A;Accession: A33787
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                                                                                                                A;Cross-references: EMBL:X89506; NID:g899350;
                  Query Match
Best Local S
Matches 23
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                    Similarity 88.
23; Conservative
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Pred. No. 8.7e-12;
0; Mismatches 3
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Pred. No. 7e-12;
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#+ext change 05-Nov-1999
                                                     Length 146;
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A; Molecule type: mRNA
A; Residues: 1-190 (LEU)
A; Cross references: GB: M32976; NID: 9163006; PIDN: AAA30502.1; PID: 9163007
A; Cross references: GB: M32976; NID: 9163006; PIDN: AAA30502.1; PID: 9163007
R; Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.;
Biochem. Biophys. Res. Commun.. 165, 1198-1206, 1989
A; Title: Vascular endothelial growth factor: a new member of the platelet-derived
A; Reference number: A33787; MUID: 90121225
A; Accession: B33787
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                                                                                                                                                                                                                                                           R:Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that A; Reference number: A35987; MUID:90207249
A; Accession: A35987;
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Biochen. Biophys. Res. Commun. 161, 851-858, 1989
A;Title: Pituitary follicular cells secrete a novel heparin-binding growth
A;Reference number: A33255; MUID:89286596
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Science 246, 1306-1309, 1989
A;Title: Vascular enjothelial growth factor is a secreted
                                                                                                                                                                                         A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1 190 <CON>
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C;Accession: A35987
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A;Residues: 27-190 <TIS>
A;Cross-references: $B:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
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A;Accession: B40080
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                                                                                                                                                                                                                                                                                                                                                                                                                      C; Species: Rattus norvegicus (Norway rat)
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                                                        Query Match
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Matches 22
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Pred. No. 1.2e-11;
1; Mismatches 3
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vascular endothelial growth factor homolog A2R, 14.7K - Orf virus C;Species: Orf virus C;Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999 C;Accession: B49530
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R;Flamme, I.; Breler, G.; Risau, W.
Dev. Biol. 169, 699-712, 1995
A;Title: Vascular endothelial growth factor
A;Reference number: I51295; MUID:95301109
A;Accession: I51295
                                                                                 A; Reference number: A56125; MUID:95221439 A; Accession: A56125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-133 <LYT>
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A; Title: Homologs of vascular endothelial A; Reference number: A49530; MUID:94076465
A; Contents: NZ2
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C;Species: Phasianidae gen. sp. (quail)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
                                                                                                                                                                             R;DiSalvo, J.; Bayne, M.L.; Conn, G.; Kwok, P.W.; Trivedi, P.G.; Soderman, D.D.; J. Biol. Chem. 270, 7717-7723, 1995
A;Title: Purification_and_characterization of a naturally occurring vascular endo
                                                                                                                                                                                                                                                                                         placental growth factor precursor - rat (;Species: Rattus norvegicus (Norway rat) (;Decies: Rattus norvegicus (Norway rat) (;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 05-Nov-1999 (;Pate: 19-Oct-1995 #text_change 05-Nov-1995 (;Pate: 19-Oct-1995 (;Pate: 19-Oct-1995 (;Pate: 19-Oct-1995 (;Pate: 19-Oct-1995 (;Pate: 19-Oct-1995 (;Pate: 19-Oct-1995 (;Pate: 19-Oct-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B49530
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A; Residues: 1-128 <FLA>
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A;Status: preliminary; not compared with A;Molecule type: mRNA A;Residues: 1-158 <DIS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Accession: B49530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:S78343;
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Matches 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            l Similarity 65.4
17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91
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Pred. No.
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Pred. No. 8.2e-06;
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6.8e-08;
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K;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, Biochem. Biophys. Res. Commun. 220, 922-928, 1996
A;Title: Characterization of the murine VEGF-related if A;Reference number: JC4679; MUID:96183052
A;Molecular and JC4680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Maglione, D.; Guerriero, V.; Viglietto, G.; Delli-Bovi, P.; Persico, M.G. Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991
A;Title: Isolation of a human placenta cDNA coding for a protein related to A;Reference number: A41236; MUID:92021031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         placental growth factor precursor
(;Species: Homo sapiens (man)
C;Date: 19-Jun-1992 #sequence_revi
C;Accession: A41236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:L. C;Keywords: glycoprofein
                                                                     A;Gene: v...
A;Map position: 19
A;Introns: 137/2
A;Introns: 137/2
F;1-21/Domain: signal sequence #status predicted <SIG>
F;1-21/Domain: vascular endothelial growth factor-related
                                                                                                                                                                                                         A;Cross-references: GB:U43837; NID:g1314335; PIC;Comment: This factor is a mitogen, that is se ar endothelial growth factors 167 and VEGF 186.
                                                                                                                                                                                                                                                                                                                                                                                                             N; Alternate names: VRF 167 protein C; Species: Mus musculus (house mouse)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Gene: GDB: PGF
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A; Residues: 1-149 <MAG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Status: preliminary
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                                                                                                                                                                      C;Genetics:
A;Gene: vrf
                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-188 <TOW>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vascular endothelial growth factor-related
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                                                                                                                                                                                                       ar endothelial growth
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12; Conserv
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                   47.8%;
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; Score 66; DB
; Pred. No. 0.00
5; Mismatches
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Pred. No. 0.00017
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                     DB 2;
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CNDEGLESVPTEESNITMQIMRIK 24

l Similarity 12; Conserv

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Mol. Gen. Genet. 230, 230-240, 1991
A;Title: Molecular analysis and nucleotide sequence of the envCD operon of Escherichia A;Title: Molecular analysis and nucleotide sequence of the envCD operon of Escherichia A;Reference number: $18536; MUID:92079901
A;Recession: $18536
A;Accession: $18536
A;Status: preliminary
A;Molecula type: DNA
A;Residues: 1-190, 'AL', 193, 'SLM', 197, 'KRLNWRLSSSSILST', 213-312, 'T', 315-385 <KLE>
A;Ctoss-references: EMBL:X57948
R;Klein, J.R.; Henritch, B.; Plapp, R.
Curr. Microbiol. 21, 341-347, 1990
A;Title: Molecular cloning of the EnvC gene of Escherichia coli.
A;Reference number: $18665
A;Accession: $18665
A;Accession: $18665
A;Accession: $18665
A;Accession: $18665
A;Accession: $18665
A;Residues: 1-96 <KL2>
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A; Nolecule type: mRNA
A; Residues: 1-207 <TOW>
A; Residues: 1-207 <TOW>
A; Cross-references: GB:043836; NID:g1703480; PIDN:AAC52932.1; PID:g1314334
C; Comment: This factor is a mitogen, that is selective for endothelial cells, and belong lar endothelial growth factors 167 and 186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A.Molecule type: DNA
A;Residues: 1-385 <BLAT>
A;Residues: 1-385 <BLAT>
A;Residues: 1-385 <BLAT>
A;Cross-references: GB:AE000405; GB:U00096; NID:g1789659; PIDN:AAC76297.1; PID:g1789665;
A;Experimental source: strain K-12, substrain MG1655
A;Experimental source: strain K-12, substrain MG1655
R;Klein, J.R.; Henrich, B.; Plapp, R.
Mol. Gen. Genet. 230, 230-240, 1991
Mol. Gen. Genet. 230, 230-240, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C.Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 08-Oct-1999
C.Paccession: C65119; S18536; S18665
R.Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.;
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617
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A;Title: Characterization of the murine VEGF-related factor gene.
A;Reference number: JC4679; MUID:96183052
A;Accession: JC4679
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C;Species: Mus musculus (house mouse)
C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N; Alternate names:
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Best Local Similarity 50.0
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Pred. No. 0.0067;
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A;Gene: acrE; envC
C;Superfamily: lipoyl/biotin-binding homology
C;Superfamily: lipoyl/biotin-binding homology
C;Keywords: cell division; lipoprotein
E;1-23/Domain: signal sequence #status predicted <SIG>
E;24-385/Product: acriflavin resistance protein acrE #status predicted <MAT>
E;20-103,175-204/Domain: lipoyl/biotin-binding homology #status atypical <LPB>
                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: EMBL:X57948; NID:g510827; PIDN:CAA41016.1; PID:g510829 A;Experimental source: strain K-12 C;Genetics:
Search completed:
Job time: 183 sec
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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Gapop 10.0 , Gapext
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Copyright (c) 1993 - 2000 Com
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P49151 sus scrofa
Q00731 mus musculu
P50412 ovis aries
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7 human immun
6 homo sapien
8 aspergillus
5 infectious
7 xenopus lae
2 schizosacch
6 mycobacteri
6 daucus caro
7 homo sapien
6 schizosacch
7 saccharomyc
3 bacteriopha
3 caenorhabdi
8 kluyveromyc
7 histo-blo
5 glycine max
5 pyrococcus
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2 rattus norv
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PERMEABILIII FACIOR) (VFF). VEGF OR VEGFA. HOMO sapiens (Human).	GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR	Last sequence update)	ed)	į	PRT: 215 AA.			ALIGNMENTS	PGS1_BOVIN	BYST_MOUSE	YAS8_SCHPO	STE7_YEAST	ZF92_MOUSE	DXR_CHLTR	SAP1_SCHPO	IMDH_METKA	YD34_YEAST	MSN5_YEAST	YB36_METJA	YKF3_CAEEL	
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Fairbrother W.J., Champe M.A., Chilstinger ....., Fairbrother W.J., Champe M.A., Chilstinger ...., The Starovasnik M.A.; Starovasnik M.A.; 13C, and 15N backbone assignment and secondary structure of receptor-binding domain of vascular endothelial growth factor."; protein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 refined to 1.93-A resolution: binding.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C., Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.; "Crystal structure of the complex between VEGF and a receptor-blocking peptide.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE: 97352774.
Muller Y.A., Li B., Christinger H.W., Wells J.A.,
de Vos A.M.;
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                                                                                                                                                                                                                                                                                                                                                                                                             endothelial growth factor.";
Structure 6:637-648(1998).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGENESIS,
CELL GROWTH, INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fairbrother W.J., Starovasnik M.A.;
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"The crystal
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EMBL;
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                                                                                                                                                                           entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                    use
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                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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ALTERNATIVE PRODUCTS: FOUR FORMS OF VEGF ARE PRODUCED ALTERNATIVE SPLICING OF THE SAME GENE (VEGF-121, VEGF-VEGF-189 AND VEGF-215).
                                                                                                                                                                                                                                                                                                                                                                       SUBGULTI: HOMODIMER, DISULFIDE-LINKED SUBCELLULAR LOCATION: SECRETED BUT R
                                                                                                                                                                                                                                                                                                                                                         SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN
                        M32977;
M27281;
M63978;
M63971;
M63972;
M63973;
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M63976;
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VASCULAR ENDOTHELIAL G
TISSUE-HEARL,
MEDLINE; 95143284.

Sharma H.S., Targ Z.H., Gho B.C.H., Verdouw P.D.;

"Nucleotide sequence and expression of the porcine vascular endothelial growth factor.";
Biochim. Biophys. Acta 1260:235-238(1995).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY (BY SIMILARITY).

-i- SUBUNIT: HONODIMER, DISULFIDE-LINKED (BY SIMILARITY).
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DISULFID
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SEQUENCE
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PIR;
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PIR;
PIR;
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P49151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS502249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
pringen: Growth factor; Glycoprotein; Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PFAM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3D-structure.
SIGNAL
                                                                                                                                                                                 Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           VARSPLIC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INTERPRO
                                                                                                                                                                      Mammalia; Eutheria;
                                                                                                                                                                                           Sus scrofa (Pig)
                                                                                                                                                                                                        VEGE
                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                       87
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A40079, A40079,
A40080, A40080,
A40454, A40454,
B40454, C40454,
C40454, C40454,
J01463, J01464,
J01464, J01464,
S17348, S17348,
1VGH, OB-APR-98,
1VGH, OB-APR-98,
1VFF, OB-APR-98,
2VGH, OB-APR-98,
1VFF, OB-APR-98,
1VFF, 29-JUL-98,
1VFF, 23-FEB-99,
1VFF, 23-FEB-99,
1P22440,
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215 AA;
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25173
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), Last annotation update)
, GROWIH FACTOR PRECURSOR
(VPF).
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96.2%;
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Pred. No. 4.2e-14;
0; Mismatches 1
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MISSING (IN ISOFORM VEGF-121).
; 7B9759AD5871FF33 CRC64;
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K -> N (IN ISOFORM VEGF-121
VEGF-165).
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                                                                                                                                                                                  Euteleostomi;
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Best Local Similarity 92.9
Matches 24; Conservative
MEDINE: 96216498.

Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P.,

"The mouse gene for vascular endothelial growth factor.

structure, definition of the transcriptional unit, and
characterization of transcriptional and post-transcript
regulatory sequences.";

J. Biol. Chem. 271:3877-3883(1996).
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CHAIN
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SEQUENCE
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O00731;
01-APR-1993 (Rel. 25, Created)
01-OCT-1996 (Rel. 34, Last annotation update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
PROSITE;
Mitogen;
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                                                                                                                                                                                                      Claffey K.P., Wilkison W.O., Spiegelman B.M., "Vascular endothelial growth factor. Regulation by differentiation and activated second messenger path
                                                                                                                                                    SEQUENCE OF
                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE; 92355593.
                                                                                                                                                                                                                                                                                                                         Development 114:521-532(1992).
                                                                                                                                                                                                                                                                                                                                         Breier G., Albrecht U., Sterrer S., Risau W.;
"Expression of vascular endothelial growth factor during angiogenesis and endothelial cell differentiation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota;
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P15692;
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Rodentia;
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                                                                                                                                                                                                      pathways.";
                                                                                     s A.P., D'Amore
factor. Genomic
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                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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...CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
PERMEABILITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HEPARIN.

ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSCIATION/HEPARIN-BINDING THE CHOROLD PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, PLACENTA AND THE CHOROLD PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, ADRENAL KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL FORMAL PRODUCTION OF THE PROPERTY OF THE PROPERT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: HOMODIMER, SUBCELLULAR LOCATION
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LOCATION: VEGF-1 AND VEGF-2
INS CELL-SURFACE ASSOCIATED U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ONLESS RELEASED BY
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EMBL; $37052; AAB22252.1; -. EMBL; $38083; AAB22253.1; -. EMBL; $38100; AAB22254.1; -. EMBL; M95200; AAA40547.1; -. EMBL; U41383; CAB35545.1; -. EMBL; A43351; A43351.
   CHAIN
DISULFID
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SEQUENCE
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PFAM; PF00341; PDGF; 1
                                                                                                                                                                                                                , P15692; 2VGH.
MGI:103178; VEGF.
                                                                                                                                                         Growth
   B
                                                                                                                                                         factor;
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PDGF_2;
               214
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127
129
76
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100
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164
208
      25283
                                                                                                                                                      Glycoprotein; Alternative splicing; Signal.
    ¥.
INTERCHAIN (BY SIMILARITY).

INTERCHAIN (BY SIMILARITY).

N-LINKED (GLUNAC. . .) (PROBABLE).

K -> N (IN ISOFORM VEGF-1).

MISSING (IN ISOFORM VEGF-2).

MISSING (IN ISOFORM VEGF-2).

MISSING (IN REF. 2).

GE -> ER (IN REF. 2).
                                                                                            BY SIMILARITY.

VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
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Query Match
Best Local Similarity
Matches 23; Conserv
   VEGF_SHEEP STANDARD; PRT; 146 AA.
P50412;
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
PERMEABILITY
                                                                                                                                                                  86 CNDEALECYPISESNITMQIMRIKPH 111
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                                                                                                                                                                                                                                      Conservative
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VEGE_(
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01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-OCT 1996 (Rel. 34, Last annotation updat
VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its
                       SEQUENCE FROM N.A
                                                        Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
                                                                                            FACTOR) (VPF).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       factor (VEGF) in the ovine corpus 10 J. Reprod. Fertil. 108:157-165(1996) -1- FUNCTION: GROWTH FACTOR ACTIVE 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.; "Characterization and expression of vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae; Caprinae; Ovis.
                                               Mammalia;
                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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SUBCULT: HOMODIMER, DISULFIDE-LINKED SUBCELLULAR LOCATION: SECRETED BUT RI
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                                               Eutheria;
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88.5%;
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INTERCHAIN (BY SIMILARITY).
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Pred. No. 2
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                                                          Craniata; Vertebrata;
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Matches 23
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Leung D.W., Cachianes G., &
"Vascular endothelial growt
mitogen.";
Biochem.
[3]
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BOVIN STANDARD; PRT; 190 AA.
P15691;
Ol-APR-1990 (Rel. 14, Created)
Ol-APR-1990 (Rel. 14, Last sequence update)
Ol-CT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
        Tischer E., Gospodarowicz D., Mitchell R., Silva M. Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothelial growth factor: a new member derived growth factor gene family.";
Biochem. Biophys. Res. Commun. 165:1198-1206(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISULFID DISULFID DISULFID
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-!- SUBCELLULAR LOCATION:
TO THE EXTRACELLULAR !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (XXX-1992) to the EMBL/GenBank/DDBJ databases - FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGENESIS, AND CELL GROWTH FACTOR ENDOTHELIAL PROLIFERATION AND PERMEABILITY.
                                                                  MEDLINE;
                                                                                                                                                                                           Mammalia;
                                                                                                                                                                                                   Eukaryota;
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HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                               Bovidae;
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PS50278; PDGF_2;
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Pred. No. 2
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actyla; Ruminantia; Pe
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EMBL; M31836; AAA30804.1; -.
EMBL; M31750; AAA30805.1; -.
PIR; A33255; A33255.
PIR; A33255; A33257.
PIR; A33787; A33787.
PIR; B40080; B40080.
HSSP; P15692; 2VGH.
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                                                                                                                                                                VEGE_RAT STANDARD; PRT; 190 AA. P16612; P16612; O1-AUG-1990 (Rel. 15, Created) O1-AUG-1990 (Rel. 15, Last sequence update) O1-OCT-1996 (Rel. 34, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
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SIGNAL
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SEQUENCE
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"Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";
Biochem. Biophys. Res. Commun. 161:851-858(1989).
-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chor
Mammalia; Eutheria; Rode
  SEQUENCE FROM N.A., MEDLINE; 90207249.
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SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
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Rodentia;
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                                                                Craniata; Vertebrata; Sciurognathi; Muridae;
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DEF_CHICK STANDARD; PRT; 216 AA.

DEF_CHICK STANDARD; PRT; 216 AA.

C P52582; Q91420;

T 01-OCT-1996 (Rel. 34, Created)

T 15-UUL-1998 (Rel. 36, Last sequence update)

T 15-DEC-1998 (Rel. 37, Last annotation update)

E VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEE PERMEABILITY FACTOR) (VPF).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A., Palisi T.M., Hope D.A., Thomas K.A.;

"Anino*acid and 'CDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor.";

Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).

-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                                                                                  Gallus gallus (Çhicken), and
Coturnix coturnix japonica (Japanese
Eukaryota; Metazoa; Chordata; Craniat
Archosauria; Aves; Neognathae; Gallif
                                                                                                                                                                                                                                         VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M32167; AAA41211.1; PIR; A35987; A35987.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P15692;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
nes 22; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CNDEGLESVPŢEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY).

TISSUE SPECIFICITY: EXPRESSED IN THE PITUITARY, IN BRAIN, IN PARTICULARLY IN SUPRAOPTIC AND PARAVENTRICULAR NUCLEI AND THE PARTICULARLY IN SUPRAOPTIC AND PARAVENTRICULAR NUCLEI AND THE CHOROID PLEXUS. ALSO FOUND ABUNDANTLY IN THE CORPUS LUTEUM OF THE OVARY AND IN KIDNEY GLOMERULI.

SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: HOMODIMER, DISULFIDE-LINKED SUBCELLULAR LOCATION: SECRETED BUT RE TO THE EXTRACELLULAR MATRIX UNLESS RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CNDEALECVPJSESNVTMQIMRIKPH 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PS00249; PDGF_1; 1

PS00278; PDGF_2; Gly

PS0278; PDGF_2; Gly

1 26

27 190

51 93

10 51; Growth, factor; Gly

1 26

27 190

10 51

10 82; 127

10 86; 129

10 86; 129

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IPR000072; -
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190
93
127
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22396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87.7%;
84.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Glycoprotein; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 121; DE Pred. No. 3.1e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VASCULAR ENDOTHELIAL GROWTH FACTOR. BY SIMILARITY. BY SIMILARITY. BY SIMILARITY. BY SIMILARITY. INTERCHAIN (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-LINKED (GLCNAC
                                                                                                              apanese quail).
Craniata; Vertebrata; Euteleostomi;
C≈lliformes; Phasianidae; Phasiani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   589374010441F377
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 1; I
1.1e-12;
1es 3;
                                                                                                                                                                                                                                                                                     (VEGF) (VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
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Takahashi T SPECIES-CHICKEN;

SEQUENCE FROM

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Phasianinae;

TISSUE-HEART

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VARSPLIC
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                                                                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entities requires a license agreement (See http://www.inhors.send.an.email to licensearce.
                                                                                                                                                                                                                                                                                                                                                                         EMBL;
EMBL;
HSSP;
                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                          PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Growth factor; Glycoprotein; Alternative splicing; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                            VARSPLIC
                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                       SIGNAL
                                                                                                                                                                                                                                                                                                                                              PFAM;
                                                                                                                                                                                                                                                                                                                                                             INTERPRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Flamme I., Breier G., Risau W.;

"Vascular endothelial growth factor (VEGF) and VEGF receptor 2
(fik-1) are expressed during vasculogenesis and vascular
differentiation in the quail embryo.";
Dev. Biol. 169:699-712(1995)
-i- FUNCTION: GROWTH PACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.;
"Overexpression of vascular endothelial growth factor in the avian
embryo induces hypervascularization and increased vascular
permeability without alterations of embryonic pattern formation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SPECIES-C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 60-187 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE; 95301109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dev. Biol. 171:399-414(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPECIES=C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).

ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146 AND VEGF-166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CEIT SERVION SIGNAL.

FISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART AND LIVER. IN KIDNEY GLOMERULI, BRAIN AND YOLK SAC, VEGF-166 FORM IS 5- TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

DEVELOPMENTAL STRAGE: THE VEGF-166 FORM IS EXPRESSED EARLY AT DAY AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190 FORM IS DETECTABLE ONLY FROM DAY 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
CGDEGLECVPVDVYNVTMEIARIKPH
                          CNDEGLESVPTEESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                        S79680; AAB35371.1;
P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                           PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                    AB011078; BAA24925.1; -.
                                                     Similarity
17; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                           an email to license@isb-sib.ch).
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216
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86
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142
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210
25203
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                                                                    .48;
                                                                                                                            WW;
                                                                                                                                     INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIA
K -> N (IN ISOFORM VEGF-166).
MISSING (IN ISOFORM VEGF-146).
F -> L (IN ISOFORM VEGF-146).
                                                 Score 96; DB
Pred. No. 3.7e
3; Mismatches
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VASCULAR ENDOTHELIAL OF SIMILARITY.

BY SIMILARITY.
                                                                                                                          82E669C2F6FC6DA7 CRC64;
112
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                                              DB 1,
3.7e-08;
6;
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                                                                               Length 216
                                                     Indels
                                                                                                                                                                                                                                                                    GROWTH FACTOR.
                                                                                                                                                                                            (POTENTIAL).
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CARBOHYD
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SIGNAL
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01-OCT-1996;
01-OCT-1996;
30-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email; to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   _MOUSE
PLGF_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X80171; CAA56453.1; -. EMBL; X96793; CAA65587.1; -. HSSP; P15692; 1VPF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Achen M.G., Gad J.M., Stacker S.A., Wilks A.F.; "Placenta growth factor and vascular endothelial growth factor co-expressed diffing early embryonic development."; Growth Factors 15:69-80(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dipalma T., Tucci M., Russo G., Maglione D., Lago Saccone S., delia Valle G., de Gregorio L., Drago Viglietto G., Persico M.G.;
"The placenta growth factor gene of the mouse.";
Mamm. Genome 7:6-12(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MGD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- SUBUNIT: HONODIMER, DISULFIDE-LINKED (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. STRAIN-NIH SWISS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PLACENTA GROWTH FACTOR PRECURSOR (PLGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                               PFAM; PF00341;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE; 98065381.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERPRO;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OR PLGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MGI:105095; PGF.
       Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                                            Growth
                                                                                                                                                                                                                                                                                                                                                                                                                       PS00249;
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                                                                                                                                                                                                                                                                                                                                                                                                 PS50278;
                                                                                                                                                                                                                                                                                                                                                                                                                                          IPR000072; -
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       Conservative
                                                                                                                     ĀΑ;
                                                                                                                                                                                                                                                                                                                                                                         factor;
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                                                                                                                                                                                                                                                                                                                                                                                        PDGF_1;
PDGF_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Rodentia;
                                                                                                                  17876 MW;
                       60.9%;
57.7%;
                                                                                                                                                                                                                                                                                                                                                                       Glycoprotein;
                                                                                                                                                                                                                                                 BY SIMILARITY.
PLACENTA GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
    5
Score 84; DB
Pred. No. 2.2e
5; Mismatches
                                                                                                           INTERCHAIN (BY SIMILARITY).

INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC...) (POTENTIAL).

N-LINKED (GLCNAC...) (POTENTIAL).

N-LINKED (GLCNAC...) (POTENTIAL).

F16128BEA0790438 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
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                                                                                                                                                                                                                                                                                                                                                                    Signal.
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L., Dragani T.A.
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VEGH_ORFN2
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                                                                                                                                                                                                                                                                                          Query Match 57. Best Local Similarity 61. Matches 13; Conservative
                                                                                           PLGF_HUMAN
P49763;
01-OCT-1996
01-OCT-1996
01-OCT-2000
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P52584;
01-OCT-1996
                                                                                                                                                                      _HUMAN
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MEDLINE; 94076465.

Lyttle D.J., Fraser K.M., Fleming S.B., Mercer A.A., Robinson A.J.;

"Homologs of vascular endothelial growth factor are encoded by the poxvirus orf virus.";

J. Virol. 68:84-92(1994).
                                                           U1-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
PLACENTA GROWTH FACTOR PRECURSOR (PLGF-1/PLGF-2).
PGF OR PLGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIGNAL
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                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mitogen;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-1996 (Rel.
01-OCT-1996 (Rel.
15-JUL-1999 (Rel.
                                               Homo sapiens (Human)
                                                                                                                                                                                                                                71
                                                                                                                                                                                                                                                               μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
SIMILARITY: BELONGS TO THE PDGF/YEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                                CNDESLECVPTEEVNVSMELL
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P15692;
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PRO; IPRO00072; -.
PF00341; PDGF; 1.
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PS50278; PDGF_2;
Growth factor; G1
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ruses, no RNA stage;
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34, Last sequence update)
38, Last annotation updat
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112
114
61
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                  Chordata;
Primates;
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61
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BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTEN
M; 917C0F6883030C39 CRC64;
                                                                                                                                                                                                                                                                                       Score 79; DB Pred. No. 1.1e 5; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL.
                                                                                                                                                        PRT;
                    Catarrhini;
                                  Craniata; Vertebrata; Euteleostomi;
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                    Hominidae;
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Micyeu, Heparin-binding.
Heparin-binding.
SIGNAL 1
CHAIN 19
DISULFID 52
DISULFID 83
                                                                                                                                                   EMBL; X54936; CEMBL; A18411; CEMBL; S72960; HSSP; P15692; MIM; 601121; --
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Maglione
                                                                                                         PFAM; PF00341;
PROSITE; PS002
                                                                              Mitogen;
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Oncogene 8:925:931(1993).
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                                                                                            PROSITE;
                                                                                                                                       INTERPRO;
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                                                                              Growth factor;
                                                                                           PS00249; PDGF_1; PS50273; PDGF_2;
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170
94
128
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Park J.E., Chen H.H., Winer J., Houck K.A., Feirara N.;
Park J.E., Chen H.H., Winer J., Houck K.A., Feirara N.;
Park J.E., Chen H.H., Winer J., Houck K.A., Feirara N.;
Park J.E., Chen J.E., Potentiation of vascular endothelial growth factor bloactivity, in vitro and in vivo, and high affinity binding to Filt-1 but not to Fix-IXCD.
J. Biol. Chem. 269:25646-22654 (1994).
J. Biol. Chem. 269:26646-22654 (1994).
J. Biol. Chem. 269:
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"A heparin-binding form of placenta growth factor (PlGF-2) expressed in human umbilical vein endothelial cells and in placenta.";
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Alitalo K., del Vecchio S., Lei K.-J., Chou J.Y., Persico
"Two alternative mRNAs coding for the angiogenic factor, g
growth factor (PLGF), are transcribed from a single gene c
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TISSUE-PLACENTA;
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ALTERNATIVE PRODUCTS: 2 ISOFORMS; PLGF-1 AND PLGF-2 (SHOWN HERE);
ARE PRODUCED BY ALTERNATIVE SPLICING. PLGF-1 DIFFERS FROM PLGF-2
IN LACKING A 21 RESIDUES SEGMENT IN THE C-TERMINAL SECTION WHICH
ACTS AS A CELL RETENTION SIGNAL.
TISSUE SPECIFICITY: WHILE BOTH FORMS ARE PRESENT IN MOST PLACENTAL
TISSUES, THE LONGER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTA
AND OLLY THE SHORTER FORM IS FOUND IN THE COLON AND MAMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PTM: N-GLYCOSYLATED.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                           Glycoprotein;
PLACENTA GROWTH
BY SIMILARITY.
BY SIMILARITY.
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8 WEEK) PLACENTA
AND MAMMARY
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ico M.G.;
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Best Local S
Matches 12
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MEDLINE; 96197355
Olofsson B., Pajusola K., Kaip;
Saksela O., Orpana A., Petters;
"Vascular endothelial growth f;
endothelial cells.";
PROSITE;
                                                                          EMBL; U48801;
EMBL; U43369;
HSSP; P15692;
MIM; 601398;
                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                     -!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.
-!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.
-!- HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                            VEGB_HUMAN
P49765;
                  INTERPRO; IPRO00072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VEGF RELATED
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                                                                                              1VPF.
                                                                                                               AAB06274.1;
AAA91463.1;
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              PDGF_1;
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; Pred. No. 9.7e
6; Mismatches
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INTERCHAIN (BY SIMILARITY).

INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC...) (POTENT

N-LINKED (GLCNAC...) (POTENT

MISSING (IN ISOFORM PLGF-1).

D -> N (IN REF. 1).

MW; E47639AC59C0963F CRC64;
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Alitalo K.,
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K., Eriksson T
Trowth factor
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HETERODIMER
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GN VEGFB
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                        Matches
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Best Local
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Olofsson B., Pajusola K.
Saksela O., Orpana A., ;
"Vascular endothelial g-
endothelial cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-1996 (Rei. 34, Live 1996) (Rei. 34, Last sequence upuace, 01-OCT-1996 (Rei. 34, Last sequence upuace, 15-DEC-1998 (Rei. 37, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VASCULAR ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRF).
                                                                                                                                                                                                                                                This SWISS-PROTEENTRY is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bicinformatics Institute. There are no restrictions on it use by non-pricit institutions as long as its content is in no was modified and this statement is not removed. Usage by and for commercia entitles requires a license agreement (See http://www.isb-sib.ch/announce or send an email, to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Townson S., Lagercrantz J., Grimmond S., Silins G., Mordenskjoeld M., Weber G., Hayward N.K.;
"Characterization of the murine VEGF-related factor gene. Biochem. Biophys. Res. Commun. 220:922-928(1996).
-!- FUNCTION: GEOWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS
-!- SUBUNIT: HONODIMER, DISULFIDE-LINKED. CAN ALSO FORM H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE;
Mitogen;
SIGNAL
CHAIN
SEQUENCE
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Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Eukaryota; Putheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VEGB_MOUSE
P49766;
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                                                                                                                                              IL; U48800; ALBO6273.1; -
IL; U43837; AAC52553.1; -
IP; P15692; 2VGH.
); MGI:106199; VEGFB.
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                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN. TISSUE SPECIFICITY: ABUNDANTLY EXPRESSED IN HEART, BRAIN, AND SKELETAL MUSCLE.
                                                                                                                                                                                                                                                                                                                                                                                                                  AND SKELETAL MUSCLE.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH
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12; Conser
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Growth fa
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Pettersson R.,
L growth factor |
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; Signal; Hep-
POTENTIAL.
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VASCULAR ENDOTHELIAL GROW
F04654D5A3727194 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24
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                                        Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B, a
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No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   von Euler G., Joukov
Alitalo K., Eriksson
a novel growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1;
0.0015;
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Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HETERODIMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HEPARIN
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STRAIN-K12 / MG1655;
MEDLINE; 97426617
MEDLINE; 9742667
MEDLINE; 9742667
MEDLINE; 974267
MEDLINE; 974
                                                                                                          the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                             Klein J.R., Henrich B., Plapp R.;

"Molecular cloning of the envC gene of Escherichia coli.";

Curr. Microbiol. 21:341-347(1990).

-i- FUNCTION: MAY AFFECT SPECIFIC MEMBRANE FUNCTIONS, SUCH AS SEPTUM

FORMATION DURING CELL DIVISION, AND CELL MEMBRANE PERMEABILITY.

-i- SUBCELLULAR LOCATION: ATTACHED TO THE INNER MEMBRANE BY A LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Klein J.R., Henrich B., "Molecular analysis and Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-MAR-1992 (Rel.
01-JUL-1993 (Rel.
01-NOV-1997 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a c
between the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Science
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Escherichia coli.
                                                                                                                                                                                                                                                          ANCHOR (POTENTIAL).
-1- SIMILARITY: BELONGS TO THE ACRA/ACRE FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 1-96 FROM
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L; M96848; AAA02931.1; -.
L; X57948; CAA411016.1; -.
L; U18997; AAA58069.1; -.
L; AE000405; AAC76297.1; -.
L; S18536; S18536.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complete genome sequence nce 277:1453-1474(1997).
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12; Conserv
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26,
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PROTEIN E PRECURSOR (ENVC PROTEIN).
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Last sequence update;
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nucleotide sequence of
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Pred. No. 0.
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RESULT 15
VAC8_YEAST
ID VAC8_YEAST
AC P39968;
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Best Local S
Matches S
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ECOGENE; EG10266; ACRE.
INTERPRO; IPRO02215; -
PFAM; PF00529; H1yD; 1
PROSITE; PS00013; PROKAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-FEB-1995 (Rel. 31
01-FEB-1995 (Rel. 31
15-JUL-1998 (Rel. 36
VACUOLAR PROTEIN 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-S288C / AB972;
Dietrich F.S., Mulligan J.T., Hennessey K.M., Allen E., Araujo Dietrich F.S., Mulligan J.T., Hennessey K.M., Allen E., Cherry Aviles E., Berno A., Brennan T., Carpenter J., Chen E., Cherry Chung E., Duncan M., Guzman E., Hartzell G., Hunicke-Smith S., Hyman R., Kayser A., Komp C., Lashkari D., Lew H., Lin D., Mosedale D., Nakahara K., Namath A., Norgren R., Oefner P., Oh Petel F.X., Roberts D., Schl P., Schramm S., Shogren T., Smith Taylor P., Wei Y., Yelton M., Botstein D., Davis R.W.; Submitted (DEC-1994) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cell division; Signal; Inner SIGNAL 1 23 CHAIN 24 385 LIPID 24 24 CONFLICT 191 212
                                                                                                                                                                                                                                                                                                     Wang Y.X., Catlett N.L., Weisman L.S.;
Unpublished observations (XXX-1997).
-i- FUNCTION: FUNCTIONS IN BOTH VACUOLE INHERITANCE
TARGETING FROM THE CYTOPLASM TO VACUOLE.
-i- SIMILARITY: BELONGS TO THE BETA-CATENIN FAMILY.
                              EMBL; U18530; A\B64490.1; -.
SGD; S0000739; \text{VAC8}.
INTERPRO, IPRO00725; -.
PFAM; PF00514; \text{Armadillo_seg};
PFAM; PF00514; \text{Armadillo_seg};
PROSTTE; PS50176; \text{ARM_REPEAT};
                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a copyrent the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentitles requires a license agreement (see http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycetes;
                   Cytoskeleton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saccharomycetaceae; Saccharomyces.
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Pred. No. 1
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W-ACYL DIGLYCERIDE (POTENTIAL).
GALVINGOTTELATYQOLDFIY --
ALLSLMGKKLNWRLSSSSILST (IN REF.
SR --> T (IN REF. 2).
; EDBF82C853CF42A9 CRC64;
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score
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1: sp_archea:*
2: sp_bacteria:
3: sp_fungi:*
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Match Length DB
          November 9, 2000, 15:39:37; Search time 106.63 Seconds (without alignments) 22.768 Million cell updates/sec
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138
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sp_phage:*
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sp_rodent:*
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Q9UL23
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Q9uh58 homo sapien
Q9ul23 homo sapien
Q6ul20 homo sapien
Q16889 homo sapien
Q16889 homo sapien
Q9xsf3 canis famil
Q9xsf4 canis famil
Q9xsf5 canis famil
Q9xsf5 canis famil
Q9xsf5 canis famil
Q9xsf5 canis famil
Q75875 homo sapien
Q9qx39 spalax leuc
Q77643 ovis aries
Q9qx37 rattus norv
Q97500 oryctolagus
Q1843 oryctolagus
Q1843 oryctolagus
Q1843 oryctolagus
Q1843 oryctolagus
Q18471 xenopus lae
Q42572 xenopus lae
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
45	46	46	46	46	46	46	46.5	47	47	47	47	49	50	51	60	60	66	66	66	67	71	75	76	83	87
32.6	33.3	33.3	33.3	ω. ω.	ω ω. ω	33.3	33.7	34.1	34.1	34.1:	34.1	35.5	36.2	37.0	43.5	43.5	47.8	47.8	47.8	48.6	51.4	54.3	55.1	60.1	63.0
111	1817	1780	855	753	670	358	1340	1209	964	742	267	308	830	855	150	116	207	193	188	207	149	149	158	110	141
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026638	Q9VIS1	Q9UFR5	Q73347	Q09471	065749	P97946	Q9UVG6	Q93620	017398	018151	Q26259	Q9T0G3	Q9Y7T4	Q73344	054881	035485	Q64290	Q9XS49	Q9XS48	Q16528	Q9XS47	Q9Y6S8	Q63434	088911	070123
	Q9vis1 drosophila	Q9ufr5 homo sapien	Q73347 human immun	Q09471 homo sapien	O65749 cicer ariet	P97946 mus musculu	Q9uvg6 pichia past	Q93620 caenorhabdi	017398 caenorhabdi	018151 caenorhabdi	Q26259 chironomus	Q9t0g3 arabidopsis	Q9y7t4 schizosacch	Q73344 human immun	054881 rattus norv	O35485 rattus norv	Q64290 mus musculu	Q9xs49 bos taurus	Q9xs48 bos taurus	hom	Q9xs47 bos taurus	Q9y6s8 homo sapien	Q63434 rattus norv	ratt	O70123 mus musculu

ALIGNMENTS

888	1 CNDEC	Query Match Best Local : Matches 2	SEQUENCE	PRO	2 5											
PRE'(IMINARY; PRT; 174 AA. (TrembLrel. 13, Created) (TrembLrel. 13, Last sequence update) (TrembLrel. 14, Last annotation update)	CNDEGLESVPTEESNITMOIMRIKPH 26 	Query Match 96.4%; Score 133; DB 4; Length 147; Best Local Similarity 96.2%; Pred. No. 2.8e-13; Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0	L 1 26 POTENTIAL. NCE 147 AA; 17219 MW; DDF4D6994249BED6 CRC64;	; PS00249; PDG	PEAM; PEO0341; PDGE; 1.	EMBL; AF214570; AAF19659.1;	"Human CUNA for Vascular endothelial growth factor isoform VEGF121."; Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.	R.G.;	[1] SEQUENCE FROM N.A.	Primates; Catarrhini; Hominidae;	ноmo sapiens (нuman). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	GROWTH	01-MAY-2000 (TrEMBirel. 13, Last sequence update)	2000	Q9UH58 PRELIMINARY; PRT; 147 AA. Q9UH58;	RESULT 1 Q9UH58

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RESULT
060720
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Best Local Similarity
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                                                           Query Match
Best Local
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01-MAY-1999
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRI and receptor mRNA expression in human glomeruli, and the identification of VEGF148 mRNA, a novel truncated splice variant."; Clin. Sci. 97:303-312(1999).
EMBL; AF091352; AAD55345.1; -.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
                                                                                                    CHAIN
SEQUENCE
                                                                                                                                                                                                  Jingjing L., Roque R.S.;
Submitted (MAY-1998) to the
EMBL; AJ010438; CAA09179.1;
EMBL; AF062645; AAC16730.1;
                                                                                                                                                                                                                                                                           Lei J., Jiang A., Pei D.;
"Identification and characterization
vascular endothelial growth factor: V
Biochim. Biophys. Acta, Gene Struct.
                                                                                                                                                                                                                                                                                                                                                         EGF100
VEGF:
Homo sapiens (Human).
Homo sapiens (Human).
Chorda; Metazoa; Chordata;
Chorda; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                         01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VEGE183 PROTEIN PRECURSOR (VASCULAR ENDOTHELIAL GROWTH FACTOR 183).
                                                                                                                                                                                                                                                                                                                                                                                                                                                      060720;
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Eukaryota; Metazoa;
                                                                                                                                             INTERPRO; IPRO00072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF; 1. PRODOM; PD001629; -; 1.
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87
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                                                                                                                                                                                        P15692; 2VPF.
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                                               Similarity
25; Conserv
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209
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                                                Conservative
                                                                                                     AA;
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                                                                                                    26 P
209 V
24422 MW;
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Primates;
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96.2%;
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                                               Score 133; DB pred. No. 4.2e 0; Mismatches
                                                                                                    POTENTIAL.
VEGF183 PROTEIN.
; F01CCEACD945D6CA CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Harrison
                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; i Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
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                                                                                                                                                                                                                                                                            n of a new splicing variant 
VEGF183.";
. Expr. 1443:400-406(1998).
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.4e-13;
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                                                                     DB
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                                                                     Length 209;
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Best Local S
Matches 25
Query Match
Best Local S
Matches 24
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PROSITE; PS00249; PDGF; 1.
NON TER
SEQUENCE 254
                                                                                                  Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the El
EMEL; AR133248; AAD29682.1; -
INTERPRO; IPRO00072; -
PFAM; PP00341; PDGF; 1.
PROSITE; PS00245; PDGF; 1.
SEQUENCE 190 AA; 22292 MW;
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Q16889;
Q1-NOV-1996
Q1-NOV-1998
Q1-JUN-2000
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Q9XSF3;
01-NOV-1999
01-NOV-1999
01-JUN-2000
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EMBL; S85224; 
EMBL; S85199; 
EMBL; S85201; 
EMBL; S85219; 
EMBL; S85219; 
EMBL; S85229; 
EMBL; S85222; 
HSSP; P15692; 
INTERPRO; IPRO
                                                                                                                                                                                                                                                                                                     Para (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; C
Mammalia: Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1999 (Tremblrel. 12, 01-NOV-1999 (Tremblrel. 12, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fourth molecular species and of RNA.";
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                                                                                                                                                                                                                                                                                                                                                                        VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Houck K.A., Ferrara N., Winer J., Cachianes G., "The vascular endothelial growth factor family:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  109
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. Endocrinol. 5:1806-1814(1991).
SL; S85192; AAC65102.1; -.
SL; S85224; AAC63101.1; -.
SL; S85199; AAC63101.1; JOINED.
SL; S85201; AAC63101.1; JOINED.
SL; S85219; AAC63101.1; JOINED.
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25; Conservative
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1998 (TrEMBLrel. (
2000 (TrEMBLrel. 1
R ENDOTHELIAL GROV
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h 92.0%;
Similarity 92.3%;
24; Conservative
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2VPF.
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Primates;
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JOINED.
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, Last sequence upda
, Last annotation up
H FACTOR (FRAGMENT).
Score 127; DB 6;
Pred. No. 3.3e-12;
0; Mismatches 2
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Pred. No. 5.
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Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Fissipedia; Canidae;
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                                                                                                         2053500BC9085CE0 CRC64;
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.2e-13;
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                                        Length 190;
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Canis.
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Submitted (MAR-1999) to the EMBL
EMBL; AF133249; AAD29683.1; -.
INTERPRO: IFR000072; -.
PRAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 208 AA; 24400 MW; C
                                                                                                                                                                                                                                                                                                                                                                                                                                               Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the EN
EMBL; AF133250; AAN229684.1; -.
INTERPRO; IFR000072; -.
PRAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 214 AA; 25151 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YBGE: VERTE (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Craniata; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; (
Mammalia; Euthería; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1999 (Tremblrel. 12, 01-NOV-1999 (Tremblrel. 12, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1999
01-JUN-2000
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1999 (TremBLrel. 12, 1
2000 (TremBLrel. 14, 1
R ENDOTHELIAL GROWTH E
                                                                                                                                                                                                                                                                            Similarity 92.
24; Conservative
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; PDGF; 1.
A; 25151 MW;
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                                                                                                                                                                                                                                                                        Score 127; DE Pred. No. 3.7e 0; Mismatches
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Last annotation update)
FACTOR 188.
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Pred. No. 3
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nes 2;
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.6e-12;
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Canis.
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RESULT 077643

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P SEQUENCE FROM N.A.

X MEDLINE; 99313148.

X Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;

XT "Adaptive hypoxic tolerance in the subterranean mole rat

RT ehrenbergi: the role of vascular endothelial growth fact

REBS Lett. 452:133-140(1999).

DR EMBL; AF186236; AAD56245.1; -.

DR REME, FP800341; PDGF; 1.

DR PROSITE; PS00249; PDGF; 1.

DR PROSITE; PS00249; PDGF; 1.
                                   ŞΩ.
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Best Local 9
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Best Local :
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"Identification of a human vpry/EGF 3'
hypoxia-induced mRNA stability.";
Mol. Biol. Cell.9:469-481(1998).
EMBL; AF022375; AAC63143.1; -
HSSP; P15692; 1VPP.
INTERPRO; IPRO00072; -
PFAM; PF00341; PDGF; 1.
PRODDM; PD001629; -; 1.
SEQUENCE 191 AA; 22320 MW; B5E4358:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9QX39
Q9QX39;
01-MAY-2000
01-MAY-2000
01-JUN-2000
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075875;
01-NOV-1998
01-NOV-1998
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Spalax.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VEGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VASCULAR ENDOTHELIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-BREAST;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalia; Eutheria;
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  86
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                                           1 CNDEGLESVPTEESNITMQIMRIKPH
CNDEALECVPTSESNITMQIMRIKPH 111
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                                                                                        23;
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                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (TIEMBLIE1. 13, Created)
(TIEMBLIE1. 13, Last sequence update)
(TIEMBLIE1. 14, Last annotation update)
DOTHELIAL GROWTH FACTOR.
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                                                                                        Conservative
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Primates;
                                                                                                              88.4%;
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Pred. No. 9.7e-12;
                                                                                                           Score 122; DB 1
Pred. No. 2e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
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                                                                                        Mismatches
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                                                                                                                                   DB 11;
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RESULT 12
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Best Local Similarity
Matches 23; Conserv
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Cheung C.Y., Brace R.A.;
"Ovine vascular endotheilal growth factor: Nu expression in fetal tissues.";
Growth Factors 0:0-0(1998).
EMBL; AF071015; AAC23608.1; -.
HSSP; P15692; 2VGH.
INTERPRO; IPR000072; -.
INTERPRO; IPR000072; -.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 190 AA; 22342 MW; 0D5E3B3E5C53E7
                                                                                                                                                                                                                                                                                                                                   INTERPRO; IPRO00072;
PFAM; PF00341; PDGF; 1
PROSITE; PS00249; PDGF
SEQUENCE 214 AA; 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Developmental expression of vascular endothelial (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, masseter muscle.";
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077643;
01-NOV-1998
01-NOV-1998
01-JUN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-2000 (Tremburel 13, 01-MAY-2000 (Tremburel 13, 01-JUN-2000 (Tremburel 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
Ishii H., Arakawa T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ovis aries (Sheep).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
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Ovis aries
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                                                                                                                                                             CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                      CNDEALECVPTSESNVTMQIMRIKPH 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CNDEGLESVPTEESNITMQIMRIKPH
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                                                                                                                                                                                                                            Similarity 84. 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Caprinae;
                             PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                     PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ovis.
                                                                                                                                                                                                                                          87.78;
84.68;
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                                                                                                                                                                                                                                                                                                                                     MW;
                                                                                                                                                                                                                        Score 121; DE
Pred. No. 3.2e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence up
Last annotation
FACTOR-A188.
                                                                                                                                                                                                                          1;
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                             PRT;
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.2e-11;
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.8e-11;
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on update)
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                                                                                                                                                                                                                                                                                                                                   CRC64;
                                                                                                                                                                                                                                                                 Length 214;
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Best Local S
Matches = 22
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Best Local S
Matches 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INTERPRO; IPRO00072; -
PEAM; PF00341; PDGF; 1
PROSITE; PS00249; PDGF; 1
NON_TER
1
NON_TER
68
68
                                                                                                                                                                                                                                                                                   low-frequency-stimulated rabbit muscle.";
Am. J. Physiol. 274:0-0(1998).
EMBL; AFG22179; AAC15469.1; -.
HSSP; P15992; LVPP.
HNEERPRO; IPPAGAGE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  018843;
018843;
01-JAN-1998
01-JAN-1998
01-JUN-2000
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01-MAY-1999 (TREMBLICA)
01-MAY-1999 (TREMBLICA)
01-JUN-2000 (TREMBLICA)
VASCULAR ENDOTHELIAL (
                                                                                                                                                                                     NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE; 98191144.
Skorjanc D., Jaschinski F.,
"Sequential increases in cap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctola
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JAN-1998 (Tremblrel. 05, 01-JAN-1998 (Tremblrel. 05, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                            INTERPRO; IPRO00072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-WHITE NEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Inoue K., Kawabe Y., Kodama "Rabbit VEGF CDNA, partial", Submitted (NOV-1998) to the EMBL; AB020216; BAA36949.1; HSSP; P15692; 1VPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mammalia; Eutheria; Lagomorpha;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A
    29
                       1 CNDEGLESVPTEESNITMQIMRIKPH 26
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CNDESLECVPTEEFNVTMQIMRIKPH
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                                                                                   22;
                                                                                                    Similarity
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22; Conserv
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nilarity 84.6%;
Conservative
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AA;
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7819 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-SKELETAL MUSCLE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
Last sequence update)
Last annotation updat
FACTOR (FRAGMENT).
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Last sequence update)
Last annotation updat
FACTOR (FRAGMENT).
                                                                              Score 120; DE Pred. No. 1.5e
1; Mismatches
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nnotation update) (FRAGMENT).
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No. 1.3e-11
                                                                                                                                                                                                                                                                                                                                                                                                            Pette D.;
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                                                                                                    5e-11;
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                                                                                                                 Length 75;
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                                                                              Indels
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ID 042571
AC 042571
AC 042571
DT 01-JAN
DT 01-JUN
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Best Local Similarity 84.6
Matches 22; Conservative
                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 21; Conserv
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Okayama M., Oota I., Takuma T., Inomata K.;

"Developmental expression of vascular endothelial growth factor-A

(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in

masseter muscle.";

Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AF215726; AAF19212.1; -.

INTERPRO; IPRO00072; -.

PFAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.
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01-MAY-2000 (TrEMBLrel. 13, Created)

01-MAY-2000 (TrEMBLrel. 13, Last sequence update)

01-JUN-2000 (TrEMBLrel. 14, Last annotation update)

VASCULAR ENDOTHELIAL GROWTH FACTOR-A120.

Rattus norvegicus (Rat).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AF008593; AAB63679.1; -.
HSSP; P15692; 1VPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           042571 PRELIMINARY; PRT; 148 AA. 042571; 01-JAN-1998 (TrEMBLrel. 05, Created) 01-JAN-1998 (TrEMBLrel. 05, Last sequence update) 01-JUN-2000 (TrEMBLrel. 14, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR 122.
                                                                                                                                                                                                                                                                                                                                                                                                                                            INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSTIE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
xenopodinae; xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86 CNDEALECYPTSESNATMQIMRIKPH 111
                                                                                                                                                             87 CNDESLECVPTECYNITMQIMKIKPH 112
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                                                                                                                                                                                           1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                  79.0%; Score 109; DB 13;
80.8%; Pred. No. 1.6e-09;
Live 1; Mismatches 4;
                              9,
                              2000, 15:39:38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 117; DB 1: Pred. No. 9e-11; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             146 AA.
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                                                                                                                                                                                                                                                                                                                                              Length 148;
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Listing first 45 summaries
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Copyright (c) 1993 - 2000 Comp
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man EGF 121); VEGF 165; VEGF 189; VE eext_change 05-Nov-1999 C40454; A40079; A40080; JQ1463; Li, B.; Leung, D.W. y: identification of a fourth mo y: dentification of a fourth mo gospodarowicz, D.; Fiddes, J.C.; Gospodarowicz, D.; Fiddes, J.C.;	43.1; PID:9587560 gth 190; Indels 0; Gaps 0;	_change 05-Nov-1999 ne vascular endothelial growt		decorin precursor hypothetical prote adenosylmethionine malate oxidoreduct hypothetical prote brain neuron cytop hypothetical prote decorin precursor decorin - rabbit hypothetical prote probable isoamylas probable isoamylas probable isoamylas hypothetical prote probable isoamylas hypothetical prote hypothetical prote hypothetical prote probable isoamylas

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A;Cross-references: GB:M27281; NID:g340300; PIDN:AAA36807.1; PID:g340301 R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1309, 1989
A;Title: Vascular endothelial growth factor is a secreted angiogenic mitc A;Reference number: A40080; MUID:90069608
A;Accession: A40080
                                                                                                                                                                                                                                                                                           A;Description: promotes fluid and protein leakage from blood vessels C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; ext C;Reywords: vascular endothelial growth factor 206 precursor status F;1-165,183-232/Product: vascular endothelial growth factor 189 precursor F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor F;1-26/Domain: signal sequence *status predicted <SIG>F;101/Binding site: carbohydrate (Asn) (covalent) *status predicted
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A; Residues: 1-141,227-232 <TI3>
A; Residues: 1-141,227-232 <TI3>
A; Cross-references: GB: M63971; GB: M63972; GB: M63973; GB: M63974; GB: M63975; GB: M6397
A; Cross-references: GB: M63971; GB: M63972; GB: M63973; GB: M63974; GB: M63975; GB: M63975; GB: M63975; GB: M63974; GB: M63975; GB: M63975; GB: M63975; GB: M63976; GB: M63976
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C; Function:
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A; Molecule type: mR
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A;Residues: 1-40,'N',183-232 <WEI>
A;Cross references: EMBL.X62568; NID:g37658;
A;Experimental source: AIDS-Kaposi's sarcoma
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A;Residues: 1-140,'N',183-232 <LEU>
A;Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
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A; Residues: 1-165,183
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A;Accession: A40079
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A; Residues: 1-140,'N',183-232 <
A; Cross-references: GB: M63971;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Molecule type: protein Residues: 27-36;43-49,'R';72-76,'Q',78-81;59-71 CONSCOMMENT: The most common of several alternatively spl
                                                                                                                                                               Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Experimental source: AIDS-Kaposi's sarcoma
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Residues: 1-140,'N',227-232 <WE2>
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Accession: JQ1463
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Connolly, D.
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                                                                                                                                                                                                                                                                                               ovine vascular endothelial growth factor c; Species: Ovis orientalis aries, Ovis ammnc C; Date: 13-Jan-1996 #sequence_revision 01-w C; Accession: $57956
                                          A; Molecule type: mRNA'
A; Residues: 1-146 < RED>
                                                                                                                                                   A; Reference number: A; Accession: S57956
                                                                                                                                                                                                                     R; Redmer, D.A.; Dai, Y.; Li, submitted to the EMBL Data L
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A;Molecule type: DNA
A;Molecule type: DNA
A;Molecule type: DNA
A;Mosidues: 1-133 <LYT>
A;Cross-references: GB:S67520; NID:9456897; PIDN:AAB29220.1;
A;Note: sequence inconsistent with nucleotide translation
A;Note: sequence extracted from NCBI backbone (NCBIN:141420,
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C;Date: 07-Apr-1994 #sequence_revision
C;Accession: B49530
R;Lyttle, D.J.; Fraser, K.M.; Fleming,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
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Biochem. Biophys. Res. Commun. 165,
A;Title: Vascular endothelial growth
A;Reference number: A33787; MUID:901
A;Accession: A33787
A;Status: preliminary
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A;Title: Homologs of vascular endothelial growth factor are encoded by the state of the
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C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C;Accession: A33787
                                                                                                                    A;Status:
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       A; Cross-references:
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A; Residues: 1-120 <TIS>
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vascular endothelial growth factor-1 precursor - mouse
C:Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
R;Breier, G: Albrecht, U: Sterrer, S:; Risau, W.
Development 114, 521-532, 1992
A;Title: Expression of vascular endothelial growth factor during embryonic anginal; Reference number: A44881; MUID:92274860
A;Accession: B44881
A;Molecule type: mRNA
A;Residues: 1-190 <ARE>
A;Cross-references: GB:S38083; NID:9249858; PIDN:AAB22253.1; PID:9249859
A;Cross-references: GB:S38083; NID:9249858; PIDN:AAB22253.1; PID:9249859
A;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16317-16322, 1992
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A: Molecule type: protein
A: Residues: 27-31 <FER>
C: Keywords: alternative splicing; glycoprotein
C: Keywords: alternative splicing; glycoprotein
F: 1-25/Domain: signal sequence #status predicted <SIG>
F: 27-190/Product: vascular endothelial growth factor #status predicted <MAT>
F: 27-190/Product: vascular endothelial growth factor #status predicted
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A;Residues: 27-190 <TIS>
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
A;Ferrara, N.; Henzel, W.J.
Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Title: Pituitary follicular cells secrete a novel heparin-binding growth factor speci: A;Reference number: A33255; MUID:89286596
A;Accession: A33255
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C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
C:Accession: B40080; B33787; A33255
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R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau,
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vascular endothelial growth factor: a new member of the platelet-deri-
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A;Title: Vascular endothellal growth factor is a secreted anglogen.
A;Reference number: A40080; MUID:90069608
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A; Residues: 1-190 < LEI
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R;Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K. Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and cDNA sequences of a vascular endothelial A;Reference number: A35987; MUID:90207249
A;Accession: A35987
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A35987
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            glioma-derived vascular endothelial cell growth factor - rat C;Species: Rattus norvegicus (Norway rat) C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999 C;Accession: A35987
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                                                                                                                                                                  A; Title: Expression of vascular endothelial A; Reference number: A44881; MUID:92274860 A; Accession: A44881;
                                                                                                                                                                                                                          N;Contains: vascular endothelial growth factor-2; vascular perme C;Species: Mus musculus (house mouse) C;Date: 03-Feb-1994.#sequence_revision 03-Feb-1994 #text_change C;Accession: A44881; C44881; A60932; S52136 C;Accession: A44881; C44881; Sterrer, S:; Risau, W. Development 114, 521-532, 1992
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A;Molecule type: mRNA
A;Residues: 1-140,209-214 <BR2>
A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
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                                                          A; Note: sequence ex A; Accession: C44881
                                                                                         A;Cross-references:'GB:S37052; NID:g249856; PIDN:AAB22252.1; A;Experimental source: embryo
                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-214 < BRE>
                                                                                                                                                                                                                                                                                                                                            vascular endothelial growth factor-3 precursor -
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A; Residues: 1-190 <ÇON>
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, NCBIP:110675)
; Folkman, J.
                                                                              NCBIP:104678)
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A:Molecule type: protein
A:Residues: 27-33 <CLA>
R:Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A:Title: Enhanced expression of multiple forms of VEGF
A:Reference number: S52136; MUID:95101726
                                                    C;Accession: JC4680
R;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, Biochem. Biophys. Res. Commun. 220, 922-928, 1996
A;Title: Characterization of the murine VEGF-related A;Reference number: JC4679; MUID:96183052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vascular endothelial growth factor -
C;Species: Phasianidae gen. sp. (quai
C;Date: 13-Sep-1996 #sequence_revisio
C;Accession: I51295
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A;Title: Vascular permeability factor: a tumor-derived polype
                                                                                                                                                     vascular endothelial growth factor-related factor 167 precursor - mouse N;Alternate names: VRF 167 protein C;Species: Mus musculus (house mouse) C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
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A; Reference number: JC4
A; Accession: JC4680
A; Molecule type: mRNA
A; Residues; 1-188 <TOW>
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A; Residues: 1-128 <FLA>
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Familletti, P.C.;
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                                                            A; Cross-references:
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                                      A; Experimental source: strain NRC-1
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    HALOSP: H1185
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vascular endothelial growth factor-related factor 186 precursor - mouse N;Alternate names: VRF 186 protein, VEGF 186 C;Species: Mus musculus (house mouse) C;Ante: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999 C;Accession: JC4679 C;Accession: JC4679 R;Townson, S; Lagercrantz, J.; Grimmond, S.: Silins G · Nordenational R;Townson, S;
               R:Ng, W.V.; Ciufo, S.A.; Smith, T.M.; Bumgarne Genome Res. 8, 1131-1141, 1998
A;Title: Snapshot of a large dynamic replicon A; Reference number: Z16408; MUID:99063795
A; Accession: T08315
A; Status: translated from GB/EMBL/DDBJ
A; Molecule type: DNA;
A; Residues: 1-251 <DAS;
A; Residues: 1-251 <DAS;
                                                                                                                                                                                                           hypothetical protein H1185 [accepted] - Halobacterium sp. (strain NRC-1) pl. C;Species: Halobacterium sp. A;Variety: strain NRC-1
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 31-Jan-2000 C;Accession: T08315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Keywords: growth factor
F;1-21/Domain: signal sequence #status predicted <SIG
F;22-207/Product: vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA
A; Residues: 1-207 <TOW>
A; Cross-references: GB:U43836; NID:g1703480;
C; Comment: This factor is a mitogen, that is
lar endothelial growth factors 167 and 186.
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A;Introns: 137/2
A;Introns: 137/2
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-188/Product: vascular endothelial growth factor-related factor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R:Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjoeld, Biochem. Biophys. Res. Commun. 220, 922-928, 1996
A:Title: Characterization of the murine VEGF-related factor gene.
A:Reference number: 3C4679; MUID:96183052
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EMBL:AF016485; NID:g2822278; PID:g2822376; HALOSP:H1185
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72.78;
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Pred. No. 1.2;
1; Mismatches
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                                                                                                                                                                                                                                                                                                                Halobacterium sp. (strain NRC-1) plasmid
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1.3;
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                                                                                                                                            in a halophilic Archaeon: megaplasmid
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A;Experimental source: aorta
R;Roughley, P.J.; White, R.J.
Biochem. J. 262, 832-827, 1989
A;Title: Dermatan sulphate proteoglycans of human articular cartilage. The A;Reference number: S05639; MUID:90073579
A;Accession: S05639
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A;Residues: 361-368 & JUS>
A;Cross: references: EMBL:Ul1686; NID:g607862; PIDN:AAC50117.1; PID:g619663
A;Cross: references: EMBL:Ul1686; NID:g607862; PIDN:AAC50117.1; PID:g619663
A;Cisher, L.W.; Termine, J.D.; Young, M.F.
J. Biol. Chem. 264, 4571-4576, 1989
A;Title: Deduced protein sequence of bone small proteoglycan I (Biglycan) shows homology A;Reference number: A32458; MUID:89174714
A;Accession: A32458
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A;Title: Dinucleotide repeat polymorphism at the human biglycan (BGN) locus. A;Reference number: 138706; MUID:95187185
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C;Date: 21-Apr-1992 #sequence_revision 26-May-1995 #text_change 28-Jan-2000
C;Accession: A40757; 138706; A32458; S14349; S05639; A28457
C;Accession: A40757; 138706; A32458; S14349; S05639; A28457
R;Fisher, L.W.; Heegaard, A.M.; Vetter, U.; Vogel, W.; Just, W.; Termine, J.D.; Young, J. Biol. Chem. 266, 14371-14377, 1991
A;Title: Human biglycan gene. Putative promoter, intron-exon junctions, and chromosomal A;Reference number: A40757; MUID:91317791
A;Accession: A40757
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C;Superfamily: Halobacterium plasmid
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A;Residues: 38-41/x',43-46,'x',48-57 <ROU>
A;Residues: 38-41/x',43-46,'X',48-57 <ROU>
R;Fisher, L.W.; Hawkins, G.R.; Tuross, N.; Termine, J.D.
J. Biol. Chem. 262, 9702-9708, 1987
A;Title: Purification and partial characterization of small proteoglycans I and A;Reference number: A92656; MUID:87250639
A;Accession: A28457
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A;Residues: 1-38,'NV',141-152,'DV',165-368 <FIS2>
A;Cross-references: GB:J04599; NID:g184339
A;Note: parts of this sequence, including the amino end of the mature protein, were determined the translated sequence of the mature protein, were determined.
A;Note: parts of this sequence in GenBank entry HUMHPGI, release 113.0, (PIDN:AAA36009.
B;Note: parts of this sequence in GenBank entry HUMHPGI, release 113.0, (PIDN:AAA36009.
B;Note: parts of this sequence, including the amino end of the mature protein, were determined.
B;Note: parts of this sequence, including the amino end of the mature protein, were determined.
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B;Note: parts of this sequence, including the amino end of the mature protein, were determined.
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A; Experimental source: C; Genetics
                                                                             A; Molecule type: protein A; Residues: 38-41, 'X', 43-62, 'X', 64-66 <FIS3
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A; Residues: 1-368 <FIST>
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Pred. No. 2.4;
2; Mismatches
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F;57-81/Domain: proteoglycan amino-terminal homology <PAH>
F;91-114/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR1>
F;139-138/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR2>
F;139-159/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR3>
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F;160-183/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR4>
F;184-207/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR5>
F;209-229/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR7>
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F;278-300/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR9>
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F;316-368/Domain: proteoglycan carboxyl-terminal homology <PCH>
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C;Superfamily: decorin; leucine-rich alpha-2-glycoprotein repeat homology; pr
C;Keywords: chondroith sulfate proteoglycan; dermattan sulfate; duplication;
F;1-16/Domain: signal sequence *status predicted <SIG>
F;17-37/Domain: propeptide *status predicted <PRO>
F;38-568/Product: biglycan *status predicted <MAT>
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C;Species: Arabidopsis thaliana (mouse-ear cress)
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A;Cross-references: GDB:119727; OMIM:301870
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NSC1_MOUSE
PGS2_HUMAN
PGS2_CAENFA
PGS2_HORSE
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PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS00249; PDGF_2; 1.
Mitogen; Growth factor; Glycop: SIGNAL 1 26 PV.
CHAIN 27 190 V.
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DISULFID 86 129 B
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	CCAC_HUMAN	YGN3_YEAST	PIGR_RABIT	SIX5_MOUSE	CATA_RAT	GLG2_SOLTU	UXAC_BACST	PGS2_MOUSE	RSP4_CHLVR	CCAC_RAT	CCAC_MOUSE	PGS2_RABIT	
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ALIGNMENTS

RESULT 1 VEGF_PIG STANDARD; PRT; 190 AA. ID VEGF_PIG STANDARD; PRT; 190 AA. AC P49151; DT 01-FEB-1996 (Rel. 33, Created) DT 01-FEB-1996 (Rel. 33, Last sequence update) DT 01-CCT-1996 (Rel. 34, Last annotation update) DT VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch). BIOCHIM. BIOPHYS. ACTA 1260:235-238(1995). -!- FUNCTION: GROWTH FACTOR ACTIVE IN ANCIGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY (BY SIMILARITY). -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY). -!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY PERMEABILITY FACTOR) (VPF). "Nucleotide sequence and expression endothelial growth factor."; Eukaryota; Metazoa; Mammalia; Eutheria; Sus scrofa (Pig). Sharma H.S., Tang Z.H., Gho B.C.H., TISSUE-HEART; SEQUENCE FROM N.A. SIMILARITY). SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS. 95143234. Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Suina; Suidae; Sus. Verdouw P.D. of the porci porcine AND VASCULAR vascular õ

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VASCULAR ENDOTHELIAL GROWTH FACTOR.
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Glycoprotein; Signal.

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MEDLINE; 91268072.

A Tischer E., Mitchell R., Hartman T., Silva ...,

A Fiddes J.C., Abraham J.A.;

The human gene for vascular endothelial growth factor. Mul
protein forms are encoded through alternative exon splicing

protein Chem. 266:11947-11954(1991).
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Leung D.W., Cachianes
"Vascular endothelial
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VEGF OR VEGFA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Weindel K., Marme D., Weich H.A.; "AIDS-associated Kaposi's sarcoma endothelial growth factor.";
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MEDLINE; 93145946.
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[3]
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Connolly D.T.;
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                                   Y.A.,
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12; Conser
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Li B.,
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Structure 6:637:648(1998).
-!- FUNCTION: GROWTH FACTOR ACTIVE IN
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Biochemistry 37:177
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Starovasnik M.A.;
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the kinase domain receptor binding site.", Acad Sci. U.S.A. 94:7192-7197(1997).
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Lyttle D.J., Fraser K.M., F
"Homologs of vascular endot
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J. Virol. 68:84-92(1994).
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-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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    CHAIN
DISULFID
                                                                                                                                between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                           Redmer D.A., Dai Y., Li J., Charnock-Jones D. Reynolds L.P., Moor R.M.; "Characterization and expression of vascular factor (VEGF) in the ovine corpus luteum."; J. Reprod. Fertil. 108:157-165(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SHEEP
                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration
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01-OCT-1996 (Rel. 34, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
                           SIGNAL
                                                                                                 EMBL; X89506; CAA61677.1; HSSP; P15692; IVPF.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
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SUBCELLULAR, LOCATION: SECRETED BUT REMAINS ASSOCIATED 'TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN
                                                                                                                                                                                                                                SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                FUNCTION: GROWTH FACTOR
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                                                                                                                                                                                                                                          SIMILARITY).
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PS00249; PDGF_1; 1.

PS50278; PDGF_2; 1.

PS50278; PDGF_2; 1.

Growth factor; Glycoprotein; Signal.

Growth factor; Glycoprotein; Signal.

BY SIMILARITY.

27 146 VASCULAR ENDOTHELIAL

51 93 BY SIMILARITY.
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Cetartiodactyla;
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N-LINKED (GLONAC. ..) (POTENTIAL).
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PROSITE: PS50278; PDGF_2; 1.
Mitogen; Growth factor; Glycop
DISULFID 25 67 B
DISULFID 56 101 B
DISULFID 50 103 B
DISULFID 50 50 I
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-CCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY
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P26617;
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HSSP; P15692; 2VGH.
INTERPRO; IPRO00072; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         modified and this statement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. The symmetry of the state of the symmetry of the symmet
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ACTIVE IN ANGIOGENESIS, AND ENDOTHE
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Pred. No. 0.00
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INTERCHAIN (BY SIMILARITY).
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N-LINKED (GLCNAC. . .) (POTENTIAL).
4E792CB557F91760 CRC64;
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N-LINKED (GLCNAC. . .) (POTI;
9EB86A81A9D5DCA4 CRC64;
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Pred. No. 0.00046;
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Hystricognathi; Caviidae;
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dae; Cavia.
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RESULT 6
VEGF_BOVIN
ID VEGF_BOVIN
AC P15691;
DT 01-APR-1990
  PETTATA N., Henzel W.J.;

Ferrara N., Henzel W.J.;

Ferrara N., Henzel W.J.;

Ferrara N., Henzel W.J.;

**Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";

factor specific for vascular endothelial cells.";

Blochem. Blophys. Res. Commun. 161:851-858(1989).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIA CELL GROWTH, INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                   PROSITE;
PROSITE;
Mitogen;
             DISULFID DISULFID
                                                                                                                                                                    PIR;
PIR;
                                                                                                                                                                                               EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tischer E., Gospodarowicz D., Mitchell R., Silva M.
Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothelial growth factor: a new member c
derived growth factor gene family.";
Blochem. Biophys. Res. Commun. 165:1198-1206(1989).
                                        SIGNAL
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                                                                                                                                                                                                                                                                  the European Bioinformatics Institute. There are no restrictions on its monomers of the second of the second of the statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
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MEDLINE; 89286596.
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Mammalia; Eutheria;
                                                                                                              PFAM; PF00341; PDGF;
                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
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                                                                                                                                         HSSP; P15692; 2VGH
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"Vascular endothelial growth
                                                                                                                                                 BL; M32976; AŽA30502.1; -
BL; M31836; AŽA30804.1; -
BL; M3757; AŽA30805.1; -
R; A33255; AŽ3555.
R; A33787; A33787.
R; B40080; B40080.
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SUBUNIT: HOMODIMER,
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                                                                   PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
Growth factor; Glycoprotein; Alternative splicing; Signal
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                                          GROWTH FACTOR
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                                                                                                                                                                                                                                                                                                                                                                                            Palisi T.M., Hope D.A., Thomas K.A.;

"Amino acid and cDNA sequences of a vascular endothelial
that is homologous to platelet-derived growth factor.";

Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND E
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VA
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Palisi
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                                                           SIGNAL
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
                                                CHAIN
                                                                                 PROSITE;
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                             PERMEABILITY.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
TO THE EXTRACELLULAR MATRIX UNLESS RE
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TISSUE SPECIFICITY:
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A35987; A35987.
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11; Conserv
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an email to license@isb-sib.ch).
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990 (Rel. 15, Last sequence update)
996 (Rel. 34, Last annotation update)
996 (Rel. 34, Last annotation update)
996 (Rel. 34, Last annotation update)
997 (VASCULAR
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PS50278; PDGF_2; 1.
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                                               GROWTH FACTOR
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01-APR-1993
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CARBOHYD
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the Europuse by
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between
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J. B101. Chem. 271:3877-3883(1996).
-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
-!- FUNCTION: TNDHCES ENDOTHERIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOUSE
                                                                                                                                                                                                                                                                                                                                                                   Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A., "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus (Mouse,
                                                                                                                                                                                                                                                                   <del>+</del> +
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            **Bareier G., Albracht U., Sterrer S., Risau W.;
**Expression of vascular endothelial growth factor during embryonic anglogenesis and endothelial cell differentiation.";
**Development 114:521-532(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-OCT-1996 (Rel. 34, VASCULAR ENDOTHELIAL
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                                                                                 ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS, RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. TH LONGEST FORM, (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING.

TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROLD PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, PLACENTA AND KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADDENAL GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROLD PLEXUS IN ADULTS.

SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
            s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                PERMEABILITY.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR, LOCATION: VEGE-1 AND VEGE
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non-profit institution and this statement is
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Metazoa; Chordata; C
Metazoa; Rodentia;
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(Rel. 34, Last annotation update)
DOTHELIAL GROWTH FACTOR PRECURSOR
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Sciurognathi; Muridae; Murinae; Mus
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SEQUENCE
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_CHICK STANDARD; PRT; 216 AA.
P52582; Q91420;
01-OCT-1996 (Rel. 34, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (PERMEABILITY FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                                                            Gallus gallus (Chicken), and Gallus gallus (Chicken), and Coturnix coturnix japonica (Japanese quail).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
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PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
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                                                                                                                                                                                   SEQUENCE FROM N.A.
SPECIES-C.C.JAPONICA; TISSUE-EMBRYO.
MEDLINE; 96005007.
                                                                                                                                                                                                                                                                Submitted
                                                                                                                                                                                                                                                                                                    SPECIES-CHICKEN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mitogen; Growth SIGNAL 1
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                                                                                                                                                                   MEDLINE; 9 Flamme I.,
                                                                                                                                                                                                                                                                                  Takahashi
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                               SEQUENCE OF 60-187 FR SPECIES=C.C.JAPONICA;
                                                                                   embryo induces hypervascularization permeability without alterations of Dev. Biol. 171:399-414(1995).
                                                                                                                                         Flamme I., von Reutern M., Drexler H.C. "Overexpression of vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86
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S38083; AAB22253.1; -.

S38083; AAB22253.1; -.

S38100; AAB22254.1; -.

NL; M95200; AAA40547.1; -.

NL; U41383; CAB33545.1; -.

R; A43351; A43351.
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license@isb-sib.ch).
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BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
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INTERCHAIN (BY SIMILARITY).

INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC. . .) (PROBABLE).

K -> N (IN ISOFORM VEGF-1).

MISSING (IN ISOFORM VEGF-2).

MISSING (IN ISOFORM VEGF-2).

GE -> ER (IN REF. 2).

GE -> ER (IN REF. 2).
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                                                                                                       H.C., Syed-Ali S., Risau W.;
Hial growth factor in the avian
and increased vascular
embryonic pattern formation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
0.0059;
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VEGB_HUMAN
                 DATE BERNOOD
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Query Match
Best Local S
Matches 8
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P49765;
01-OCT-1996
01-OCT-1996
15-DEC-1998
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CARBOHYD
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SEQUENCE
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"Vascular endothelial growth factor (VEGF) and VEGF
(flk-1) are expressed during vasculogenesis and vas-
differentiation; in the quail embryo.";

Dev. Biol. 169:699-712(1995).

-!- FUNCTION: GNOWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROTentry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AB011078; BAA24925.1;
EMBL; S79680; AAB35371.1; -.
HSSP; P15692; 2VGH.
INTERPRO; IPRO00072; -.
Homo sapiens (Human)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or send an email to license@isb-sib.ch).
                                           VEGFB OR VRF.
                                                          FACTOR).
                                                                      VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CEI RETENTION SIGNAL.

TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART AND TISSUE SPECIFICITY: ABUNDANTLY AND YOLK SAC, VEGF-166 FORM IS 5- TO 10- TEMES MORE ABUNDANT THAN THE VEGF-190 FORM.

DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS EXPRESSED EARLY AT DAY AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190 FORM IS DETECTABLE ONLY FROM DAY 2.

SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
ALTERNATIVE PRODUCTS: THREE ISOROMMS (VEGF-190, VEGF-146
166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF
GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PERMEABILITY
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                                                                                                                                                                                                                                                                                                                                                                      Similarity 66.8; Conservative
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1996 (Rel. 34, 1
1998 (Rel. 37, 1
2 ENDOTHELIAL G
                                                                                                                                                                                                                                                                                                                                              167.
216
                             (Human)
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                                                                                                                                             STANDARD;
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 Chordata;
Primates;
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                                                                      , Last sequence update)
, Last annotation update)
GROWTH FACTOR B PRECURSOR
                                                                                                                  Created)
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BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
K -> N (IN ISOFORM VEGF-166).
MISSING (IN ISOFORM VEGF-146).
MISSING (IN ISOFORM VEGF-146).
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Pred. No. 0.18
1; Mismatches
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 Craniata; Vertebrata; Catarrhini; Hominidae;
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                                                                         (VEGF-B)
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                 Euteleostomi;
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VEGB_MOUSE
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GN VEGFB
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Matches
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SEQUENCE FROM N.A.
MEDLINE; 96197355.
                                                             P49766;
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELLAL GROWTH FACTOR B PRECURSOR (VEGF-B)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE: 96197355.
Olofsson B., Pajusola K., Kaipaine Saksela O., Orpana A., Pettersson "Vascular endothelial growth facto endothelial cells.";
Proc. Natl. Acad. Sci. U.S.A. 93:2
                                                                                                                                                                                                                                                                                                                                                                                                                                         entities
or send a
                                                                                                                                                                                                                                                                                               CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                    INTERPRO; IPR000072; -. PFAM; PF00341; PDGF; 1. PFAM; PF00341; PDGF_1; 1. PROSITE; PS00249; PDGF_2; 1. PS00278; PDGF_2; 1. Mitogen; Growth factor; Signal; SIGNAL 1 21 PO
                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for contities requires a license agreement (See http://www.isb-sib.ch/ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Cioning and characterization of a novel human gene relat
vascular endothelial growth factor.";
Genome Res. 6:124-131(1996).
-!- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS
-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM !
                                                                                                                                                                                                                                                                                                                                                                                              EMBL; U48801; AAB06274.1; -.
EMBL; U43369; AAA91463.1; -.
HSSP; P15692; 1VPF.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Grimmond S., Lagercrantz J., Drinkwater C., Pollock P., Gotley D., Carson E., Rakar S., Hayward N., Weber G.;
           SEQUENCE FROM
                                          Mus musculus (Mouse).
Eukaryota; Metazoa; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- SUBUNIT: HOMODIMER, WITH VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. MEDLINE; 97077124.
  TISSUE-HEART;
                                                                                                                                          VEGB_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                      мім; 601398;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN. TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER. HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                CPDDGLECVPT 92
                                                                                                                                                                                                                    CNDEGLESVPT 11
                                                                                                                                                                                                                                          Similarity
8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                         s requires a license agreement (See http://www.isb-sib.ch/announce/
an email to license@isb-sib.ch).
                                Eutheria;
                                                                                                                                                                                                                                                                                                 188
                                                                                                                                                                                                                                         63.48;
nilarity 72.78;
Conservative
                                                                                                                                                                                                                                                                                                 A
A
                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                               188 1
21261 MW;
                               Chordata;
Rodentia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kaipainen
                                                                                                                                                                                                                                         Score 45; DB Pred. No. 0.37

1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rsson R.F., Alitalo K., Eriksson factor B, a novel growth form
                                                                                                                                                                                                                                                                                               VASCULAR ENDOTHELIAL GROWTH FACTOR; F04654D5A3727194 CRC64;
                                                                                                                                                                                                                                                                                                                    POTENTIAL.
                                Craniata; Ver
Sciurognathi;
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0.37;
                                Vertebrata; :
thi; Muridae;
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                                Euteleostomi;
; Murinae; Mus
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                                                      EQUENCE
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EMBL; U48800; AAB06273.1; -.

EMBL; U48807; AAC52553.1; -.

RESSP; B15692; ZVGH.

MGD; MGI:106199; VEGFB.

INTERPRO; IPRO00072; -.

PFAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF=1; 1.

PROSITE; PS0278; PDGF=2; 1.

PROSITE; PS0278; PDGF=2; 1.

POTENTIAL.

SIGNAL 21 POTENTIAL.

CHAIN 22; 188 VASCULAR ENDOTHELIAL.

CHAIN 21 188 AA; 21442 MW; D52A055FB995E9CA CR
                                                                                                                                                                                                                                                             Saksela O., Orpana A., Pettersson R.
"Vascular endothelial growth factor endothelial cells.";
Proc. Natl. Acad. Sci. U.S.A. 93:257([2])
                                                                                                                                                           BGN.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Eukaryota; Metazoa; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Townson S., Lagercrantz J., Grimmond S., Silins G.,
Nordenskjoeld M., Weber G., Hayward N.K.;
"Characterization of the murine VEGF-related factor gene.";
"Characterization of the murine VEGF-208(1996).
Biochem. Biophys. Res. Commun. 220:922-928(1996).
-i- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.
-i- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE; 96197355.
Olofsson B., Pajus
MEDIINE: 89174714.

Fisher L.W., Termine J.D., Young M.F.;

Tladered protein sequence of bone small proteoglycan I (b

shows homology with proteoglycan II (decorin) and several
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.
TISSUE SPECIFICITY: ABUNDANTLY EXPRESSED IN HEART, BRAIN, KIDNEY
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                                                                                                                   FROM N.A.
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el. 34, Last annotation update)
PROTEOGLYCAN I PRECURSOR (BIGLYCAN)
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VASCULAR ENDOTHELIAL GROW

; D52A055FB995E9CA CRC64;
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Pred. No. 0.37;
                                                                                                                                                                  Craniata; Vertebrata; Catarrhini; Hominidae,
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                      (biglycan)
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J. Biol. Chem. 262:9702-9708(1987).
-i- TISSUE SPECIFICITY: FOUND IN THE EXTRACELLULAR MATRICES CONNECTIVE TISSUES, SPECIALLY IN ARTICULAR CARTILAGES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Human biglycan gene. Putative promot chromosomal localization.";
J. Biol. Chem. 266:14371-14377(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
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                          CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 38-66.
MEDLINE; 87250639.
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01-OCT-1996
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                                                                                                                                                                                                  between the Swiss Institute of Bioinformatics and the EMBL outstation -
the European Bioinformatics Institute. There are no restrictions on its
use by non-profit institutions as long as its content is in no way
modified and this statement is not removed. Usage by and for commercial
entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
                                                                                                                          EMBL; X80171; CAA56453.1;
EMBL; X96793; CAA65587.1;
HSSP; P15692; IVPF.
MGD; MGI:105095; PGF.
                                                                                                                                                                                                                                                                                                                                                                                               "Placenta growth factor and vascular co-expressed during early embryonic Growth Factors 15:69-80(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dipalma T., Tucci M., Russo Saccone S., della Valle G., Viglletto G., Persico M.G.; "The placenta growth factor Mamm. Genome 7:6-12(1996).
                                                                                              PEAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N:A. STRAIN-NIH SWISS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Achen M.G., Gad J.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE; 98065381
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Rodentia;
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                               Stacker S.A., Wilks A.F.; or and vascular endothelial early embryonic development.
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 Glycoprotein; Signal.
BY SIMILARITY.
PLACENTA GROWTH FACTOR.
BY SIMILARITY.
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KL -> NV (IN RE
EL -> DV (IN RE
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Gregorio L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
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L -> DV (IN REF. 1).
BF16F304C5CD3B3E CRC64;
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(GLCNAC. .) (POTENTIAL).
(GLCNAC. .) (POTENTIAL).
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L., Dragani T.A.,
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Matches 7
   EMBL; Y00712; CAA68702.1; -
PIR; S06280; S06280.
PIR; B31430; B31430
INTERPRO; IPR000372; -
INTERPRO; IPR001611; -
PFAM; PF00560; LRB; 7
PFAM; PF01462; LRRNT; 1.
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01-MAY-1991
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SEQUENCE
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J. Biol. Chem. 264:2876-2884(1989).
-!- FUNCTION: BINDS TO TYPE I AND TYPE II COLLAGEN AND AFFIRATE OF FIBRILS FORMATION. ALSO BINDS TO FIBRONECTIN AND AFFIRMATE OF FIBRILS FORMATION.
                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Day A.A., McQuillan C.I., Term
"Molecular cloning and sequence
proteoglycan II of bovine bone
Biochem. J. 248:801-805(1987).
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MEDLINE; 89123388.
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TISSUE OF ORIGIN.
SIMILARITY: BELONGS
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PTM: THE GLYCOSAMINOGLYCAN CHAIN ATTACHED
CHONDROITIN SULFATE OR DERMATAN SULFATE DE
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7; Conserv
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18, Last sequence update)
34, Last annotation update)
II PRECURSOR (PG-S2) (DECORIN).
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M-LINKED (GLCNAC. . .) (POTENTIAL).

MY; F16128BEA0790438 CRC64;
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DS-PGI and
ed by octyl-
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Best Local S
Matches 7
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P21809; P79259;
01-MAY-1991 (Rel
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SEQUENCE
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Repeat; Leucin
SIGNAL
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REPEAT
REPEAT
Neame P.J.;
"Characterization of DS-PGII, from bovine
                                                                                                                   "The primary structure of the core protein proteoglycan (P3 I) from bovine articular J. Biol. Chem. 264:8653-8661(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REPEAT
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CHAIN
                                            TISSUE-CARTILAGE;
MEDLINE; 89123338.
Choi H.U., Johnson
                                                                                                                                                                                                                                                   Xu J.H., Radhakrishnamurthy B.,
"Primary structure of bovine ao.
cloned CDNA.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                     SEQUENCE OF 38-53.
                                                                                                                                                                                                                                       Biochem. Mol.
                                                                                                                                                                                                                                                                                                                                                         Bovidae; Bovinae;
                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                  Bos taurus
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                                                                                                                                                              MEDLINE; 89255324.
Neame P.J., Choi H.U.,
                                                                                                                                                                                                                                                                                                                TISSUE-AORTA;
                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                                                                                                                                                                                            TISSUE-CARTILAGE;
                                                                                                                                                                                                                                                                                           MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                               (PG-S1).
                                                                                                                                                                                                          EQUENCE OF 38-369.
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                                               T.L.,
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    the dermatan sulfate articular cartilage a
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                                            Pal S.,
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aorta biglycan
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actyla; Ruminantia; Pecora; Bovoidea
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   cartilage
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                                             Rosenberg L.C.,
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Search completed: November Job time: 576 sec
                                                                                                                                   Query Match 56.3
Best Local Similarity 583
Matches 7; Conservative
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PIR; A33701; A33701.
INTERPRO; IPRO00372; -
INTERPRO; IPRO01611; -
PFAM; PF00560; LRR; 8.
PFAM; PF01462; LRRNT; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                REPEAT
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                                                                          77 CSDLGLKAVPKE 88
                                                                                          1 CNDEGLESVPTE 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Repeat;
                                                                                                                                                                                                               AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Leucine-repeat
                                                                                                                                                                                                               41509 MW;
                                                                                                                                                  56.3%;
               9,
              2000, 15:40:23
                                                                                                                                                                                                            C -> V (IN REF. 2).

C -> E (IN REF. 2).

A -> R (IN REF. 2).

KK -> Y (IN REF. 2).

KK -> Y (IN REF. 2).
                                                                                                                                     ÿ
                                                                                                                                                                                                                                                                                                                     O-LINKED
N-LINKED
                                                                                                                                   Score 40; DB 1;
Pred. No. 6.6;
3; Mismatches
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LRR
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                                                                                                                                                                                                                                                                                                                                                                                                                              LRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
                                                                                                                                                                                                                                                                                                                  D (GLYCOSAMINOGLYCAN).
D (GLYCOSAMINOGLYCAN).
D (GLCNAC. . .).
D (GLCNAC. . .).
                                                                                                                                     2; Indels
                                                                                                                                                                 Length 369;
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Result
No.
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Maximum DB
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Run on:
                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq
    length: 0
length: 2000000000
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    BLOSUM62
Gapop 10.0 , Gapext 0.5
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71
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CNDEGLESVPTEE 13
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sp_virus:*
                                                                                                                                                                                                                                                                                              sp_unclassified:*
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                                                                                                                                                                                                                                    SUMMARIES
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11.384 Million cell updates/sec
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Ogymf3 orf virus.
O77643 ovis aries
O75875 homo sapien
O88911 rattus norv
O70123 mus musculu
O73822 brachydanio
O99xx6 rattus norv
O42571 xenopus lae
O73682 brachydanio
O99xx39 spalax leuc
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Q16889 homo sapien
O97500 oryctolagus
O18843 oryctolagus
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3 homo sapien
3 canis famil
4 canis famil
0 homo sapien
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drosc	5 Q9VZ53	1037	54.9	39	14
	4 Q9ULD5	785	54.9	39	ω
homo	4 Q9Y3J2	428	54.9	39	ວ
Q94191 caenorhabdí	5 Q94191	340	54.9	39	=
chir	5 Q26259	267	54.9	39	5
	4 Q9Y6S8	149	54.9	39	9
Q9y3j3 homo sapien	_	146	54.9	39	8
Q20204 caenorhabdi	_	1440	56.3	40	7
	_	1006	56.3	40	8
Q12348 saccharomyc		645	56.3	40	3
Q9tw67 caenorhabdi	5 Q9TW67	606	56.3	40	34
Q9tte2 ovis aries	6 Q9TTE2	360	56.3	40	3
O54881 rattus norv		150	56.3	40	ະ
O35485 rattus norv		116	56.3	40	ĩ
O81899 arabidopsis		1736	57.7	41	õ
		1121	57.7	41	9
P87587 citrus tris	12 P87587	3107	60.6	43	8
052002 halobacteri		251	62.0	44	27
Q64290 mus musculu	11 Q64290	207	63.4	45	6
Q16528 homo sapien	4 Q16528	207	63.4	45	ິຣ
sod		193	63.4	45	4
Q9xs48 bos taurus	6 Q9XS48	188	63.4	4.5	ï
065749 cicer ariet		670	64.8	46	2
	11 Q9QXG7	214		55	μ
O42572 xenopus lae	13 042572	194	77.5	55	õ

ALIGNMENTS

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RESULT
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DT 01
DT 01
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                                                                                                                                                                                                        Query Match 93.1
Best Local Similarity 92.
Matches 12; Conservative
Q9UL23 PRESIMINARY; PRT; 174 AA.
Q9UL23;
Q1-MAY-2000 (TrimbLrel. 13, Created)
Q1-MAY-2000 (TrimbLrel. 13, Last sequence update)
Q1-JUN-2000 (TrimbLrel. 14, Last annotation update)
VASCULAR PERMEABILITY FACTOR 148.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9UH58 PRELIMINARY; PRT; 147 AA.
Q9UH58;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR ISOFORM 121 PRECURSOR.
                                                                                                                                                                                                                                                                                                   Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                          "Human cDNA for vascular endothelial growth factor isoform VEGF121."; Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF214570; AAF19659.1; -.
INTERPRO; IPR009072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                      Sato J.D.,
                                                                                                                                                CNDEGLESVPTEE 13
                                                                                                                                                                                                                                                                                                                                                                                                                    Whitney R.G.;
                                                                                                                                                                                                                                                                                     147 AA;
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17219
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                                                                                                                                                                                                                                                                                     WW;
                                                                                                                                                                                                           Score 66; DB Pred. No. 0.00 0; Mismatches
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DDF4D6994249BED6 CRC64;
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RESULT
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Q9XSF4
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the EMEL; AF133248; AAD29682.1; -
INTERPRO; IPR000072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 190 AA; 22292 MW;
                                                                                                                                                                                    Q9XSF4;
01-NOV-1999
01-NOV-1999
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9XSF3;
01-NOV-1999
01-NOV-1999
01-JUN-2000
      Canis familiaris (Dog).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                               01-NOV-1999 (TREMBLIEGI. 12,
01-JUN-2000 (TREMBLIEGI. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                      Q9XSF4
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EMBL; AF091352; AAD55345.1; -.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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[1]
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-HEART;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VASCULAR ENDOTHELIAL GROWTH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-GLOMERULI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
nes 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CNDEGLESVPTEE 13
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12; Conservative
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Eutheria;
                                                                                                                                                                                                                                                  (TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PDGF; 1.
; 22292 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93.0%;
92.3%;
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. 12, Last sequ
. 14, Last anno
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12, Last sequence update)
14, Last annotation update)
                                                                                                                                                                                 Last sequence up
                                                                                                                                                  FACTOR 182.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL/GenBank/DDBJ databases.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
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Pred.
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0.00021;
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0.00019;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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Q9XSF5
ID Q9
AC Q9
DT 01
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Best Local Similarity
Matches 12; Conserv
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Best Local Similarity
Matches 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the EI
EMBL; Atl33249; AbD29683.1; -
INTERPRO; IPR000072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 208 ÅA; 24400 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       060720
060720;
01-AUG-1998
01-MAY-1999
01-JUN-2000
Q9XSF5 PRELIMINARY;
Q9XSF5;
01-NOV-1999 (TrEMBLrel. 12,
                                                                                                                                                                                                                                                                                                                                                                         SIĞNAL
CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jingjing L., Roque R.S.;
Submitted (MAY 1998) to the
EMBL; AU010438; CAA09179.1;
EMBL; AF062645; AAC10730.1;
HSSP; P15692; 2VPF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; E
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAY-1999 (TIEMBLIE1. 10, Last sequence update)
01-UN-2000 (TIEMBLIE1. 14, Last annotation update)
VEGF183 PROTEIN PRECURSOR (VASCULAR ENDOTHELIAL GROWTH FACTOR 183).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [1]
SEQUENCE FROM N.A.
TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRODOM; PD001629; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERPRO; IPR000072; -. PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lei J., Jiang A.; Pei D.; "Identification and characterization of a new splicing variant vascular endothelial growth factor: VEGF183."; Biochim. Biophys. Acta, Gene Struct. Expr. 1443:400-406(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE; 99096474.
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                                                                                                                                                                   87 CNDEGLECVPTEE
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27
209 7
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                                                                                                                                                                                                                                                             Conservative
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209
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92.3%;
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       Created)
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Pred. No.
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                                                                                                                                                                                                                                                          Score 66; DB 4;
Pred. No. 0.00024;
); Mismatches 1
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F01CCEACD945D6CA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL
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                                                  214 AA
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0.00023;
                                                                                                                                                                                                                                                                                                      Length 209;
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Best Local S
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                                                                          Matches
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Best Local
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Summitted (MAR-1999) to the EMB:
EMBL; AR133250; AADD29684.1; -.
INTERPRO: IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00049; PDGF; 1.
SEQUENCE 214 AA; 25151 MW;
                                                                                                                                                                                                                                    MO1. Endocrinol. 5:1806-181
EMBL; 88519; AAC63101.1; -
EMBL; 885224; AAC63101.1; -
EMBL; 885249; AAC63101.1; J
EMBL; 885219; AAC63101.1; J
EMBL; 885201; AAC63101.1; J
EMBL; 885219; AAC63101.1; J
EMBL; 885222; AAC63101.1; J
HSSP; P15692; 2VPF
                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1996 (TremBLrel.
01-NOV-1998 (TremBLrel.
01-JUN-2000 (TremBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q16889;
Q16889;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; (
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                     PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                     Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W., "The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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01-JUN-2000 (TremBLrel.
VASCULAR ENDOTHELIAL GRO
                                                                                                                                                                                                                                                                                                                                                                         of RNA.
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                                                                                                                                                                                                                    HSSP; P15692; 2VPF.
INTERPRO; IPR000072; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. MEDLINE; 92168017.
      109
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                                      1 CNDEGLESVPTEE
      CNDEGLECVPTEE
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                                                                        l Similarity
12; Conserv
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12; Conserv
                                                                                                                                                        254 AA;
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                                                                        Conservative
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      121
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                                                                                                                                                      29461 MW;
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cel. 14,
GROWTH
                                                                                      93.0%;
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Last
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Last annotation updat
FACTOR 188.
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                                                                     Score 66; DB Pred. No. 0.00 0; Mismatches
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Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; I Catarrhini; Hominidae;
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                                                                                                                                                      069DFE9B9723DBA8 CRC64;
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annotation update)
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                                                                      Indels
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RESULT 097500

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Best Local S
Matches 11
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097500;
01-MAY-1999
01-MAY-1999
01-JUN-2000
                                                                                                                    PROSITE;
NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                018843 PRÉLIMINARY; PRT; 75 AA.
018843;
01-JAN-1998 (TrEMBLrel. 05, Created)
01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR (FRAGMENT)
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NON_TER
SEQUENCE
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Oryctolagus cuniculus (Rabbit).
Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Ceporidae; Oryctolag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
Inoue K., Kawabe Y., Kodama T.;
"Rabbit VEGF CDNA, partial.";
Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases
EMBL; AB020216; BAA36949.1; -.
HSSP; P15692; IVPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-1999 (TrEMBLrel. 10,
01-MAY-1999 (TrEMBLrel. 10,
01-JUN-2000 (TrEMBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                          INTERPRO; IPR000072; -. PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                          Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                       VEGE
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29
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CNDESLECVPTEE
                      CNDEGLESVPIEE
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PS00249; PDGF;
                                                                                                                    75 AA;
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                                                   Conservative
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                                                                                                                       8720 MW;
                                                                84.5%;
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, Last sequence updat
, Last annotation upd
H FACTOR (FRAGMENT).
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                                                  Score 60; DB 6; Le
Pred. No. 0.00093;
0; Mismatches 2;
                                                                                                                       DDCE2C5B29E69359 CRC64;
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Pred. No. 0.00084;
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Matches 11
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                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN-COLUMBIA-RAMBOULLIET;
Cheung C.Y., Brace R.A.;
"Ovine vascular endothelial growth fa.
expression in fetal tissues.";
Growth Factors 0:0-0(1998).
EMBL; AF071015; AAC23608.1; -.
HSSP; P15692; 2VGH.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PRODOM; PS001629; -; 1.
SEQUENCE 190 AA; 22342 MW; 0D5E3B
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HSSP; P15692; 1VPP.
INTERPRO; IPRO00072; -.
FFAM; PF00341; PDGF; 1.
FROOTIT; PS00244; PDGF; 1.
FROODM; PD001629; -; 1.
SEQUENCE 132 AA; 14763 MW; 1
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Q9YMF3;
01-MAY-1999
01-MAY-1999
01-JUN-2000
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01-MAY-1999 (TIEMBLIEL 10,
01-JUN-2000 (TIEMBLIEL 14,
VASCULAR ENDOTHELIAL GROWTH
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Meyer M., Clauss M., Lepple-Wienhues A., Waltenberger J.,

Rugustin H.G., Ziche M., Lanz C., Buettner M., Rziha H.J., Dehio C.;

"A novel vascular endothelial growth factor encoded by Orf virus,

"A novel vascular endothelial growth factor encoded by Orf virus,

"EMPO T. mediates angiogenesis via signalling through VEGFR-2 (KDR) boot VEGFR-1 (Fit-1) receptor tyrosine kinases.";

EMBO J. 18:363-374(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ovis aries (Sheep).
Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                    l Similarity 84.
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                                                                                                                                    84.5%;
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Last annotation update)
FACTOR HOMOLOG VEGF-E.
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Last annotation update)
FACTOR.
                                                                                                 Score 60; DB Pred. No. 0.00 0; Mismatches
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Matches 10; Conserv
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Best Local
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"Identification of a human VPF/VEGF 3 hypoxia-induced mRNA stability.";
Mol. Biol. Cell 9:469-481(1998).
EMBL; AF022375; AAC63143.1;
HSSP; P15692; IVPP.
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INTERPRO; IPR0000772; -.
PFAM; PF00341; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 191 AA; 22320
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075875;
01-NOV-1998
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SEQUENCE
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01-NOV-1998 (TYEMBLIEL 08,
01-NOV-1998 (TYEMBLIEL 08,
01-JUN-2000 (TYEMBLIEL 14,
VASCULAR ENDOTHELIAL GROWTH
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Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; E
Eukaryota; Metazoa; Chordata; Catarrhini; Hominidae;
                                                                                                                                                  HSSP; F10024, ...
INTERPRO; IPRO00072; -.
PFAM; PF00341; EDGF; 1.
PROCETTE: PS00249; PDGF; 1.
                                                                                                                                                                                                                         "Expression of Messenger RNA Splice Variants for Vascular Growth Factor ir. the Adult Rat and Human Penis."; Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases. EMBL; AF080594; AAC36708.1; -. HSSP; P15692; lVPP.
                                                                                                                                                                                                                                                                                                                                  Burchardt M., Burchardt T.,
Buttyan R., Shabsigh R.;
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01-NOV-1998 (TIEMBLIEL 08, Last sequence update)
01-NOV-100 (TIEMBLIEL 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR.
                                                                                                                                                                                                                                                                                                                                                                                STRAIN-SPRAGUE-DAWLEY; TISSUE-PENIS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chor
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Pred. No. 0.01
0; Mismatches
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Last annotation update)
FACTOR A 110 PRECURSOR
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Sugihara T., Wadhwa R., Kaul S.C., Mi Sugihara T., Wadhwa R., Expliced form o growth factor, VEGF 115.";
J. Biol. Chem. 273:3033-3038(1998).

EMBL: US0279; AAC05442:1; -.

HSSP: P15692; 1VPP.
SEQUENCE FROM N.A.

Liang D., Ge R.;

Submitted (APR-1998) to the EN

EMBL; AF059661; AAC14713.1; -.

HSSP; P15692; 1VPF

INTERPRO; IFPR00072; -.

PFAM; PF00341; PDGF; 1.

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Sugihara T., Kaul S.C., Mitsui Y., Wadhwa R.;

"Enhanced expression of multiple forms of VEGF is associated with spontaneous immortalization of murine fibroblasts.";

Biochim. Biophys. Acta 1224:365-370(1994).
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Eukaryota; Metazoa; Chordata; Craniata; Futeleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi
Cypriniformes; Cyprinoidea; Cyprinidae; Rasborinae; Danio.
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01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-UN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR 121 ISOFORM.
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ALIGNMENTS

A; Accession: Broads A; Molecule type: DNA A; Residues: 1-140,'N',183-232 <ti2> A; Cross-references: '3B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977; A; Accession: C40454 A; Accession: C40454</ti2>	A:Accession: A40454 A:Molecule type: DNA A:Residues: 1-165,183-232 <ti1> A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976;</ti1>	R;Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.; J. Biol. Chem. 266, 11947-11954, 1991 A;Title: The human gene for vascular endothelial growth factor. Multiple protein form A;Reference number: A40454; MUID:91268072	A, Accession: B41551 A, Status: nucleic acid sequence not shown; not compared with conceptual translation A, Status: nucleic acid sequence not shown; not compared with conceptual translation A, Molecule type: mRNA A, Residues: 1-141,227-232 <- HOUD	A;Accession: C41551 A;Status: nucleic acid sequence not shown A;Molecule type: mRNA A;Molecule type: mRNA A;Residues: 1-140,'N', 183-232 <hou2></hou2>	A;Accession: A41551 A;Molecule type: mRNA A;Molecule type: mRNA A;Residues: 1-23 <houl> A;Cross references: GB:S85192; NID:g246155; PID:g246156</houl>	C;Species: Homo Sapiens (man) C;Species: Homo Sapiens (man) C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999 C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; JQ1463; R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W. Mol. Endocrinol. 5, 1806-1814, 1991 A;Title: The vascular endothelial growth factor family: identification of a fourth mo A;Reference number: A41551; MUID:92168017	A41551 A41551 A41551 A41551 Vascular endothelial growth factor 206 precursor - human N;Alternate names: vascular permeability factor N;Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; VE
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A;Status: not compared with conceptual translation
A;Molecule type: mRNA i
A;Residues: 1-165,183-232 <KBC>
A;Cross-references: GB:M27281; NID:g340300; PIDN:AAA36807.1; PID:g340301
R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989

endothelial growth factor is a secreted angiogenic mitogen.

A;Molecule type: DNA A;Residues: 1-141,272-32 <TI3> A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978 R;Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D. Science 246, 1309-1312, 1989

A;Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF A;Reference number: A40079; MUID:90069609 A;Accession: A40079

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A:Note: sequence extracted from NCBI backbone R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B J. Biol. Chem. 267, 16947-16322, 1992
A;Title: Vascular endothelial growth factor. R A;Reference number: A43351; MUID:92355593
A;Accession: A43351
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A; Residues: 1-190 <BRE>
A; Cross-references: GB:S38083; NID:g249858;
                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
R;Breier, G; Albrecht, U.; Sterrer, S.; Risau, W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Description: promotes fluid and protein leakage from blood vessels C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular prof;1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <V20 F;1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status predic F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predic F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predic F;1-26/Domain: signal sequence #status predicted <SIG>
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A;Experimental source: AIDS-Raposi's sarcoma cell
R;Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.
J. Biol. Chem. 264, 20017-20024, 1989
J.Title: Human vascular permeability factor. Isolation from U937 cells.
A;Reference number: A34492; MUID:90062112
A;Accession: A34492
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Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A;Title: AIDS-associated Kaposi's sarcoma cells in A;Reference number: JQ1463; MUID:92231879
     A; Residues:
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A; Residues: 1-140,'N',183-232 <WEI>
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A; Cross-references: GB: M32977; NID:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
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A; Accession: A40080
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Best Local Similarity
Matches 15; Conserv
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1-116, 'ER', 119-190 <CLA>
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0; Mismatches
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B.M.
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                                                                                             cell differentiation
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                                                                                                                                                                                                                  PID:g249859
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A; Molecule type: protein
A; Residues: 27-33 <CLA>
R; Sugihara, T.; Kaul; S.C.; Mitsui, Y.; Wadhwa,
B; Sugihara, T. atta 1224, 365-370, 1994
A; Title: Enhanced expression of multiple forms
A; Reference number: $52136; MUID:95101726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Residues: 1-140/209-214 <br/>
A; Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1;<br/>
A; Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1;<br/>
A; Note: sequence extracted from NCBI backbone (NCBIN:107624,<br/>
R; Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.;<br/>
J. Exp. Med. 172, 1535-1545, 1990<br/>
A; Title: Vascular permeability factor: a tumor-derived polype<br/>
A; Reference number: A60932; MUID:91079755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Title: Expression of vascular endothelial growth factor during embryonic angiogenes A;Reference number: A44881; MUID:92274860 A;Accession: A44881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, Development 114, 521-532, 1992
A;Title: Expression 1992
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N;Contains: vascular endothelial growth factor-2; vascular permeability factor
C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
C;Accession: A44881; C44881; A60932; S52136
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A44881
                                                                                                                                                                                                                                           F;1-26/Domain: signal sequence #status predicted <SIG>F;27-214/Product: vascular endothelial growth factor-3
                                                                                                                                                                                                                                                                                                             C;Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3 C;Reywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homoginesis; disulfide bond; di
                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: protein A; Residues: 27-46 <SUG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Reference number: A; Accession: S52136
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A; Residues: 1-140,209
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A;Experimental source: embryo
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A; Residues: 1-214 < BRE>
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                                               Query Match
Best Local S
Matches 14
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14; Conserv
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                                                                    Conservative
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                                                                    score 72; DB; Pred. No. 8.5
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Pred. No.
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                                                      DB 2; L.
3. 8.5e-06;
0;
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3. 7.5e-06;
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NCBIP:107625)
Familletti, P
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NCBIP:110675)
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ESNITMQIMRIKPH

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vascular endothelial growth factor (version 1) - bovine
-C; Species: Bos primigenius taurus (cattle)
-C; Species: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C; Accession: A33787
R; Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Labiochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A; Title: Vascular endothelial growth factor: a new member of the platelet-de A; Beference number: A33787; MUID: 90121225
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R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; submitted to the EMBL Data Library, July 1995
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A33787
                                                                                                                                                                                                                    R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D. Blochim. Blophys. Acta 1260, 235-238, 1995
A;Title: Nucleotide sequence and expression of the por A;Reference number: S2130; MUID:95143284
A;Accession: S52130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996
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                                                                                                                                                                                                                                                                                                                                                              vascular endothelial growth factor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
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A; Residues: 1-146 < RED>
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A; Accession: S57956
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C;Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-120 <TIS>
                                                                                                                                  A;Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560
                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-190 <SHA>
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Pred. No.
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                                                                                                                                                                                                                                                                                         R;Conn, G.; Bayne, Mil.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Ho Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is A;Reference number: A35987; MUID:90207249
A;Accession: A35987
                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
C;Accession: A35987
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F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #status predicted
F;100/Binding site: carbohydrate (Asn) (covalent) #status predicted
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Blochem. Blophys. Res. Commun. 161, 851-858, 1989
A;Title: Pituitary follicular cells secrete a novel heparin-binding growth factor A;Reference number: A33255; MUID:89286596
A;Accession: A33255
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A;Residues: 27-190 cTIS>
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1;
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A;Residues: 1-190 <LEDY
A;Residues: 1-190 <LEDY
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
A;Titscher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.;
Blochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vscular enJothelial growth factor: a new member of the platelet-derived A;Reference number: A3787; MUID:90121225
A;Accession: B33787
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A; Residues: 1-190 <CON>
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A; Accession: B40080
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A;Title: Vascular endothelial growth factor is a secreted anglogenic mitogen
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Best Local :
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                                          ESNITMQIMRIKPH 16
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Pred. No. 1.1e-05;
1; Mismatches 0
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Pred. No. 1.1e-05;
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RESULT
T13669
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R;Flamme, I.; Breier, G.; Risau, W.
Dev. Biol. 169, 699-712, 1995
A;Title: Vascular endochelial growth factor (VEGF) and VEGF receptor 2 (flk-1) are expre A;Reference number: 151295; MUID:95301109
A;Accession: 151295
A;Molecule type: mRNA
A;Residues: 1-158 <DIS>
A;Cross-references: GB:L40030; NID:g1263413; PIDN:AAA97426.1; PID:g1263414
                                                                                                                                                                                  placental growth factor precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 19-oct-1995 #sequence_revision 19-oct-1995 #text_change 05-Nov-1999
C;Accession: A56125
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C;Species: Drosophila melanogaster
C;Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change 13-Aug-1999
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                                                                                 A; Reference number: A56125; A; Accession: A56125
                                                                                                                       R;DiSalvo, J.; Bayne, M.L.; Conn, G.; Kwok, P.W.; Trivedi, P.G.; Soderman, D.D.; Palisi J. Biol. Chem. 270, 7717-7723, 1995
A;Title: Purification and characterization of a naturally occurring vascular endothelia
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A; Residues: 1-1011 <K
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A; Reference number: 217697;
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A; Residues: 1-128 <FLA>
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C;Species: Phasianidae gen. sp. (quail)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:L23146; NID:g385073; PID:g385074; PIDN:AAA03750.1
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\::Gene: VEGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                        53.5%;
                                                                                                   characterization of a naturally occurring vascular endothelia. 5; MUID:95221439
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75.0%;
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A; Cross-references: EMBL: U23168; PIDN: AAC38806.1; CESP: B0228.
A; Cross-references: EMBL: U23168; PIDN: AAC38806.1; CESP: B0228.
                                                                                                                                                 A; Gene: CESP:B0228.2
                                                                                                                                                                                                                                                                                                                                           C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
                                                                                                                                   A; Introns: 1456/2;
                                                                                                                                                                                                                                                                                submitted to the EMBL Data Library, March A;Description: The sequence of C. elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Keywords: glycoprotein
                                                                                                                                                                                                                     A; Molecule type: DNA
                                                                                                                                                                                                                                                    A; Accession: T29043
                                                                                                                                                                                                                                                                  A; Reference number: 'Z18324
                                                                                                                                                                                                                                                                                                                R; Leimbach,
                                                                                                                                                                                                                                                                                                                           C; Accession:
                                                                                                                                                                                                                                      A; Status:
                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein B0228.2 - Caenorhabditis elegans
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                                                                       52.3%;
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Pred. No. 0.62;
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cosmid B0228
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7.9;
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A; Map position:
C; Keywords: gly
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                                                                                                                                                                                                                                                                                                                                                                       R;Harris, D.; McDonald, S.; Barrell, B.G.; Rajandream, submitted to the EMBL Data Library, February 1996
                                                                                                                                                                                                                                                                                                                                                                                                                         probable dolichyl-diphosphooligosaccharide--protein glycotransferase (EC 2.4.1.119)
C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 *sequence_revision 03-Dec-1999 *text_change 03-Dec-1999
                                                                                                                                                                                                          A; Gene: SPDB:SPAC27F1.07
                                                                                                                                                                                                                                          A; Cross-references: EMBL: Z69368; PIDN: CAA93296.1; A; Experimental source: strain 972h-; cosmid c27F1
                                                                                                                                                                                                                                                                               A; Molecule type: DNA
A; Residues: 1-450 <HAR>
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                                                                     1 Similarity
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301
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A;Title: Isolation of a human placenta cDNA coding for a protein related to the vascular A;Reference number: A41236; MUID:92021031
A;Accession: A41236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Hall, J.; DePaulo, T.; Ahmed, A.; Bussey, H.; Fortin, N.; Friesen, J.D.; Storms, R.K. submitted to the EMBL Data Library, December 1995
A;Description: The sequence of Saccharomyces cerevisiae chromosome XVI left arm.
A;Reference number: S69040
A;Accession: S69044
Search completed: November 9, 2000, 15:32:04 Job time: 185 sec
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C;Species: Homo sapiens (man)
C;Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 05-Nov-1999
C;Accession: A41236
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C;Keywords: ATP
F;33-313/Domain: protein kinase homology <KIN>
F;47-55/Region: protein kinase ATP-binding motif
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Map position: 16L
A; Note: YPL141c
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A; Residues: 1-865 <HAL>
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C;Date: 22-Aug-1996 #sequence_revision 06-Sep-1996 #text_change 24-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein YPL141c - yeast (Saccharomyces cerevisiae) N; Alternate names: hypothetical protein LPI5
                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                 A;Cross-references: GDB:134676; OMIM:601121
A;Map position: 14q24-14q31
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Best Local Similarity 46.2%;
Matches 6; Conservative
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491 EESSTTMQTSKIQPN 505
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OSTA_SCHPO
PLGE_HUMAN
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12.220 Million cell updates/sec
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Q00731 mus musculu
P50412 ovis aries
P26617 cavia porce
  P49763
P21458
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P49151
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homo sapien
sugar beet
bacillus su
bacillus su
cochliobolu
kluyveromyc
treponema p
escherichia
bos taurus
s genome po
human papil
caenorhabdi
methanococc
mus musculu
saccharomyc
methanococc
psychrophil
alfalfa mos
mycoplasma
drosophila
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sus scrofa
rattus norv
gallus gall
mus musculu
caenorhabdi
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RESI VEGI	RESULT 1 VEGF_HUMAN VEGF_I	HUMAN	STA	STANDARD;	Hd	RT; 2	15 AA.		
g g A	P156	92; PR-1990	P15692; 01-APR-1990 (Rel. 14, 01-APR-1990 (Rel. 14, 0	14, Cre	ated)		3a t 0)		
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	mitogen. Science	gen."; nce 246	:1306-1						
R R	SEQU	ENCE FR	∞	, AND P	PARTIAL	SEQUENC	CE.		
RA R	Keck	P. J. ,	.; Hauser	;	Krivi G.	, Sanzo	o K., Warren	n T., Feder	J.,
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2 T 2	[3]	nce 246	:1309-1	(198	9).				
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R R	Fidd	Tischer E., Fiddes J.C.	rαi∺	11 R., am J.A.	Hartman	ζ :		/icz	5. D.,
로 집 집 집	protein J. Biol.	tein forms ar Biol. Chem. 3	ത്ര -	encoded through 6:11947-11954(199	through 11954(1	1)	ternative exon	splicing.	= } ~• **C }
	SEQU	ENCE FROM	SEQUENCE FROM N.A. MEDLINE; 92231879.						
	"AID	del K., S-assoc	Marme iated K	D., Wei	ch H.A.; sarcoma	a cells	s in culture	express	vascular
	Bioc	hem. Bi	ophyś.	Res. Co	mmun. 1	83:116	7-1174(1992	•	
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RA RA	Connolly	olly D.	T., Ola	nder J.) ·	Heuvelman	D., Nels	R., Monsel	1 R.,
P. P.	J. B	man vasc Biol∵ Ch	vascular pe l∵ Chem. 264	permeabil 264:20017-	ility factor. 7-20024(1989)	tor. I	. Isolation fr	rom U937 cells	ls.";
RP RN	[.6]	ENCE OF	27-41.						
r r	Fieb	MEDLINE; 93 Fiebich B.I.	B.L., Jaeger B.,		Schoell	mann C	, Weindel	K., Wilting	J.,
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*Synthesis and assembly of functionally active human vascular

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-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGGENESIS, CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C., Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.; "Crystal structure of the complex between VEGF and a receptor-blocking
                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for compositive transfer of the statement is not removed.
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Eur. J. Biochem. 211:19-26(1993).
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Starovasnik M.A.;
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ALTERNATIVE PRODUCTS: FOUR FORMS
ALTERNATIVE SPLICING OF THE SAME
VEGF-189 AND VEGF-215).
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SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARII
           ; M32977; AAA35789.1;
M52781; AAA36804.1;
M63978; AAA36804.1;
M63971; AAA36804.1;
M63972; AAA36804.1;
M63973; AAA36804.1;
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DT 01-APR-1993 (Rel: .25, Created)

DT 01-OCT-1996 (Rel: 34, Last sequence update)

DT 01-OCT-1996 (Rel: .34, Last annotation update)

DE VASCULAR EMOOTHELIAL GROWTH FACTOR PRECURSOR (VF

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MEDLINE; 92355593.

Claffey K.P., Wilkison W.O., Spiegelman B.M.;

"Vascular endothelial growth factor. Regulation by cell differentiation and activated second messenger pathways.";

J. Biol. Chem. 267:16317-16322(1992);
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J. Biol. Chem. [3]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MGD; MGI:103178; VEGF.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
-!- SUBCELLULAR LOCATION: VEGF-1 AND VEGF-2 ARE SE
VEGF-3 REMAINS CELL-SURFACE ASSOCIATED UNLESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL;
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98
                                                                                                                                                        Local
                                                                ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NL; S37052; AAB22253.1; -.
LL; S38083; AAB22253.1; -.
S1L; S38100; AAB22254.1; -.
NL; M95200; AAA80547.1; -.
NL; U41383; CAB35545.1; -.
NL; A43351; A43351.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING.
TISSUE SPECIFICITY. THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ilatory sequences. ...
11atory sequences. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROLI PLEXUS IN ADULTS. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROID PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, PLACENTA I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HEPARIN.
ALTERNATIVE PRODUCTS: THREE FORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
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ESNITMQIMRIKPH
                                                             ESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P15692;
                                                                                                                             . Similarity
14; Conserv
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51
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141
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                                                                                                                                                                                                                                                                                             A,
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'8; PDGF_2; 1.
factor; Glyco
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93
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208
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                                                                                                                                                                                                                                                                                             25283
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BY SIMILARITY.
VASCULAR ENDOTHELIAL G
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
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                                                                                                                                                        Score 72;
Pred. No.
                                                                                                                                                                                                                                                                                                    ...... (SECNAC. ...) (PROBABLE).

K -> N (IN ISOFORM VEGF-1).

MISSING (IN ISOFORM VEGF-1).

MISSING (IN ISOFORM VEGF-2).

GE -> ER (IN REF. 2).

B5540DE1927777777
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (PROI
K -> N (IN ISOFORM VEGF-1).
                                                                                                                                                                                                                                                                                             B5540B51E4BB6E17 CRC64,
                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alternative splicing; Signal.
                                                                                                                                                                                                 DB 1;
                                                                                                                                                        2.8e-06;
                                                                                                                                                                                       Length 214;
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RESULT 3
VEGF_SHEEP

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Best Local S
Matches 14
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P50412;
01:-OCT-1996
01:-OCT-1996
01-NOV-1997
                                                                                                                                                                                                                           CHAIN
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
SEQUENCE
Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.;

"Characterization and expression of vascular endothelial growth factor (VEGF) in the ovine corpus luteum.";

J. Reprod. Fertil. 108:157-165(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-NOY-1997 (Rel. 35, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
PERMEABILITY FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                                                                               EMBL; X89506; CAA61677.1;
HSSP; P15692; 1VPF.
INTERPRO; IPR009072; -.
                                                                                                                                                                                                                                                                                                                                                                                                                              use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <del>:</del> :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. TISSUE-KIDNEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bovidae; Caprinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                        SIGNAL
                                                                                                                                                                                                                                                                                                                                   Mitogen;
                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                           PROSITE;
                                                                                                                                                                                                                                                                                                                                                                       PFAM; PF00341; PDGF;
                                                                                                                      97
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SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 European Bioinformatics Institute. The by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PERMEABILITY
                                                                                                                                  EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SWISS-PROT entry is copyright. It is produce the Swiss Institute of Bioinformatics
                                                                                                             EEFNITMQIMRIKPH, 111
                                                                                                                                                                   14;
                                                                                                                                                                                                                                                                                                                            ps00249; pDGF_1;
ps50273; pDGF_2;
Growth factor; Gly
                                                                                                                                                                              Similarity
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                                                                                                                                                                   Conservative
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93.3%;
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                                                                                                                                                                                                                            , WM
                                                                                                                                                                                                                                                                       BY SIMILARITY.

VASCULAR ENDOTHELIAL G
BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.
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                                                                                                                                                                  Score 71; DB 1; L
Pred. No. 2.8e-06;
D; Mismatches 1;
                                                                                                                                                                                                                           INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT.
4E792CB557F91760 CRC64;
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                                                                                                                                                                                         Length 146
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                                                                                                                                                                                                                                                                                                              GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 , AND ENDOTHELIAL AND VASCULAR
                                                                                                                                                                                                                                        (POTENTIAL).
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RESULT
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Best Local S
Matches 14
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01-APR-1990 (Rel. 14,
01-OCT-1996 (Rel. 34,
VASCULAR ENDOTHELIAL C
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P15691;
01-APR-1990
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pROSITE;
Mitogen;
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SEQUENCE
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Mammalia; E
Bovidae; Bo
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                                                     mitogen.
                             Science
                                                                                                                 SEQUENCE FROM N.A., AND SEQUENCE OF 27-47. MEDLINE; 90069608.
                                                                                                                                                                                                                                                                                           PERMEABILITY
                                                                                                                                                                                                                                                                                                                                                                                                                                             BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; M84230; AAA37057.1;
HSSP; P15692; 2VGH.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for cor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted
                                                                         "Vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FACTOR) (VPF).
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                                                                                                                                                                                                                                                   taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBUNIT: HOMODIMER, DISULFIDE-LINKED SUBCELLULAR LOCATION: SECRETED BUT RITO THE EXTRACELLULAR MATRIX UNLESS RI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CELL GROWTH. INDUCES PERMEABILITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EEFNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SWISS-PROT entry is copyright. It is produced through
een the Swiss Institute of Bioinformatics and the EM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PS00249; PDGF_1; 1.
; PS50278; PDGF_2; 1.
; PS50278; PDGF_2; 1.
; Growth factor; Glyco
D 25 67
D 56 101
D 60 103
D 50 50
D 59 59
D 74 74
                               246:1306-1309(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                  Bovinae;
                                                                                                                                                                                                         Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (XXX-1992)
                                                                                                                                                                                                Metazoa; Chordata; Craniata; Vertebra
Eutheria; Cetartiodactyla; Ruminantia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         email to license@isb-sib.ch).
                                                                                                                                                                                                                                               (Bovine)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                           FACTOR)
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                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                14, Last sequence update)
34, Last annotation update)
IAL GROWTH FACTOR PRECURSOR
OR) (VPF).
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93.3%;
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37 BY SIMILARITY.

31 BY SIMILARITY.

33 BY SIMILARITY.

30 INTERCHAIN (BY SIMILARITY).

30 INTERCHAIN (BY SIMILARITY).

30 INTERCHAIN (BY SIMILARITY).

31 N°-LINKED (GLCNAC. . .) (POTENTIAL).

32 N°-LINKED (GLCNAC. . .)
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                                                                       G., Kua
growth
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TOR ACTIVE IN ANGIOGENESIS, AND ENDOTHE
ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .'
                                                                                             Kuang
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                                                                       J W.-J.,
actor is
                                                                                                                                                                                                                                                                                                                                                                                                                    190
                                                                     Goeddel D.V., Ferrara a secreted angiogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.2e-06;
                                                                                                                                                                                                                        Vertebrata;
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                                                                                                                                                                                                                                                                                                           (VEGF) (VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 164
                                                                                                                                                                                                    Pecora; Bovoidea;
                                                                                                                                                                                                                      Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENDOTHELIAL
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EMBL; M31836; AAA30804.1; -
EMBL; M33750; AAA30805.1; -
PIR; A33255; A33255
PIR; A33787; A33787.
PIR; B40080; B40080.
_PIG STANDARD; PRT; 190 AA.

VECF_PIG STANDARD; PRT; 190 AA.

P49151;

01-FEB-1996 (Rel. 33, Created)

01-FEB-1996 (Rel. 33, Last sequence update)

01-OCT-1996 (Rel. 34, Last annotation update)

VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
                                                                                                                                                                                                                                  CHAIN
DISULFID
DISULFID
DISULFID
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                      Mitogen;
SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lau K., Crisp T., Fiddes J.C., Abraham "Vascular endothelial growth factor: a derived growth factor gene family."; Biochem. Biophys. Res. Commun. 165:1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tischer
Lau K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 27-31.
MEDLINE; 89286596.
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                                                                                                                           97
                                                                                                                                                2 EESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produced through a collaboration veen the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR.LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY)
                                                                                                                          EEFNITMQIMFIKPH
                                                                                                                                                                        14;
                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; 90121225.
E., Gospodarowicz D., Mitchell R., Silva M. Crisp T., Fiddes J.C., Abraham J.A.,
                                                                                                                                                                                                                                                         Growth 1 1 51 82 86 86 100 100 139
                                                                                                                                                                        Conservative
                                                                                                                                                                                                                            190
93
127
129
76
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183
184
22310
                                                                                                                                                                                                                                                                                                                                                  factor; Glycoprotein; Alternative splicing; Signal 26
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93.3%;
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                                                                                                                                                                                                                                                      VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . ) (POTENTIAL).
MISSING (IN ISOFORM BETA).
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R -> K (
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EDBF903E46E24789 CRC64;
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                                                                                                                                                                   DB 1; L. 3.8e-06; 1;
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                                                                                                                                                                                              Length 190;
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                                                                                                                                                                       Indels
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Matches 14
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01-AUG-1990 (Rel. 15, 1
01-OCT-1996 (Rel. 34, 1
VASCULAR ENDOTHELIAL GI
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DISULFID
DISULFID
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CARBOHYD
SEQUENCE
                                                                                                                                          VEGF_RAT P16612;
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SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP; P15692; 2VGH.
INTERPRO; IPRO00072; -
PFAM; PF00341; PDGF; 1
PROSITE; PS00249; PDGF 1; 1
PROSITE; PS50278; PDGF 2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochim. Biophys. Acta 1260:235-238(1995).

-I- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND EXCELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VAPERMEABILITY (BY SIMILARITY).

-I- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).

-I- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Nucleotide sequence and expression of the porcin endothelial growth factor.";
SEQUENCE FROM N.A., MEDLINE; 90207249.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X81380; CAA57143.1;
HSSP; P15692; 2VGH.
                                             Rattus norvegicus (
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-HEART
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia;
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                                                                                 PERMEABILITY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY).
                                                                                                                                                                                                               EEFNITMQIMRIKPH
                                                                                                                                                                                                                                    EESNITMQIMRIKPH
                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eutheria;
                                  Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Metazoa; Chordata; Craniata; Vertebrata;
Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                       190
                                                                                                                                                                                                                                                              Conservative
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85
85
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                                                                                                                                                     STANDARD;
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190
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129
76
85
                                                       (Rat).
                                 Chordata;
Rodentia;
            AND
                                                                                                                                                                                                                                                                                                                       22368
                                                                                          , Last sequence update)
, Last annotation update)
GROWTH FACTOR PRECURSOR
                                                                                                                                                                                                                                                                        82.6%;
93.3%;
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                                                                                                                             Created)
            SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                             Glycoprotein;
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VASCULAR ENDOTHELIAL GROWTH F.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
                                                                                                                                                                                                                                                                      Score 71; I
Pred. No. 3.
                                                                                                                                                                                                                                                                                                                     N-LINKED (GLCNAC. . .) (P
04D40B8D7913047F CRC64;
                                Craniata; Vertebrata;
Sciurognathi; Muridae
                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                     190
                                                                                                                                                                                                                                                                                                                                                                                                                            Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REMAINS ASSOCIATED 'RELEASED BY HEPARIN
                                                                                                                                                                                                                                                                                    DB 1;
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1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          porcine vascular
                                  Muridae;
                                                                                          (VEGF)
                                                                                                                                                                                                                                                                                   Length 190
                                 Euteleostomi;
; Murinae; Rattus
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Best Local S
Matches 13
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DISULFID
CARBOHYD
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_CHICK
_STANDARD;
_PRT;
_216_AA.

p52582;
_091420;
_01-OCT-1996 (Rel. 34, Created)
_15-JUI-1998 (Rel. 36, Last sequence update)
_15-DEC-1998 (Rel. 37, Last annotation update)
_VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
_PERMEABILITY FACTOR) (VPF).
                                                                                                             Gallus gallus (Chicken), and Coturnix coturnix japonica (Japanese Eukaryota; Metazoa; Chordata; Craniat Archosauria; Aves; Neognathae; Gallif
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE;
Mitogen;
SEQUENCE FROM N.:
SPECIES-CHICKEN:
Takahashi T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <del>-</del>; -;
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PIR; A35987; A35987.
HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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                                                                                              Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY): STRICTLY: EXPRESSED IN THE PITUITARY, IN BRAIN, PARTICULARLY IN SUPRAOPTIC AND PARAVENTRICULAR NUCLEI AND PARTICULARLY IN THE CONDUCT LITTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBUNIT: HOMODIMER, DISULFIDE-LINKED. SUBCELLULAR LOCATION: SECRETED BUT RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  t is homologous to platelet-derived growth factor Natl. Acad. Sci. U.S.A. 87:2628-2633(1990). FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS. CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHOROID PLEXUS. ALSO FOUND ABUNDANTLY IN THE CORPUS LUTEUM THE OVARY AND IN KIDNEY GLOMERULI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBCELLULAR, LOCATION: SECRETED BUT REMAINS ATTO THE EXTRACELLULAR MATRIX UNLESS RELEASED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ESNVTMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
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PS50278; PDGF_2;
Growth factor; G
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                           TISSUE-HEART
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92.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glycoprotein; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 71; DB 1;
Pred. No. 3.8e-06;
1; Mismatches 0
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .).
589374010441F377 CRC64;
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                                                                                                                                           apanese quail).
Craniata; Vertebrata;
                                                                                                                     Galliformes;
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                                                                                                                     Phasianidae;
                                                                                                                                                                                                                                                                 (VEGF) (VASCULAR
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Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.

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SEQUENCE
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SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    differentiation in the quail embryo.";
Dev. Biol. 169:699-712(1995).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and to commen
                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AB011078; BAA24925.1; -. EMBL; S79680; AAB35371.1; -. HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or send an email to license@isb-sib.ch).
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MEDLINE; 95301109.
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SPECIES=C.C.JI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146,
166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF
GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS.
RETENTION SIGNAL.
RETENTION SIGNAL.
RISUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN H
LIVER. IN KIDNEY GLOMERULI, BRAIN AND YOLK SAC, VEGF-166
LIVER. IN KIDNEY GLOMERULI, BRAIN AND YOLK SAC, VEGF-166
TO 10 - TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.
DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS EXPRESSED EARLY
AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VE
COMMENTAL STAGE: THE VEGF-166 FORM IS EXPRESSED EARLY
AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FORM IS DETECTABLE ONLY FROM DAY 2. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                      VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC...) (POTENTIAL).
K -> N (IN ISOFORM VEGF-166).
MISSING (IN ISOFORM VEGF-166).
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MISSING (IN ISOFORM VEGF-146);
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Mus musculus (Mouse).
Mus musculus (Mouse).
Arrota; Metazoa; Chordata;
Arrota; Rodentia;
                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dipalma T., Tucci M., Russo G., Maglione D., Lago Saccone S., della Valle G., de Gregorio L., Drago Viglietto G., Persico M.G.;
"The placenta growth factor gene of the mouse.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-1996 (Rel. 34, 0
01-OCT-1996 (Rel. 34, 1
30-MAY-2000 (Rel. 39, 1
PLACENTA GROWTH:FACTOR
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SIGNAL
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EMBL; X96793; CAA65587.1;
HSSP; P15692; 1VPF.
MGD; MGI:105095; PGF.
                                                                                                                                                                                                                                                                                                                                                                                                                             This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Placenta growth factor and vascular endothelial groco-expressed during early embryonic development.";
Growth Factors 15:69-80(1997).
- I- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-NIH SWISS;
MEDLINE; 98065381.
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ANITMQILKIFPN
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PS50278; PDGF_2;
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                                              Conservative
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DR PRECURSOR
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PLACENTA GROWTH FACTOR
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Q09221;
                                                                                                                                                                                                           Ogihara T., Isobe T., Ichimura T., Taoka M., Fund Onishi Y., Inukai K., Anai M., Fukushima Y., Kiku Oka Y., Asano T.;
"14-3-3 protein binds to insulin receptor substrabinding sites of which is in the phosphotyrosine J. Biol. Chem. 272:25267-25274(1997).
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Caenorhabditida; Rhabditoidea;
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Phabditidae; Peloderinae; Caenorhabditis.
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01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
HYPOTHETICAL 200.6 KDA PROTEIN B0228.2 IN CHROMOSOME II.
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Q9Y4H2;
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Leimbach D., Wa
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-!- SIMILARITY: CONTAINS
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non-profit institutions as long as its content is in no way and this statement is not removed. Usage her and the statement is not removed.
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    39, Created)
    39, Last sequence update)
    39, Last annotation update)
    SUBSTRATE-2 (IRS-2)

                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata;
Primates;
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1 PTB DOMAIN.
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Pred. No. 3.2;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8FD4D4BAE19B20A2 CRC64;
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3.2;
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Kikuchi M.,
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; Homo.
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, Yazaki Y.
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Best Local S
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Harris D., McDonald S., Barrell B.G., Rajandream M.A., Walsh S.V.;
Submitted (FEB-1996) to the EMBL/GenBank/DDBJ databases.

-! FUNCTION: ESSENTIAL SUBUNIT OF N-OLIGOSACCHARYL TRANSFERASE.

-! AN-OLIGOSACCHARYL TRANSFERASE CATALYSES THE TRANSFER OF A HIGH

A MANNOSE OLIGOSACCHARIDE FROM A LIPID-LINKED OLIGOSACCHARIDE DO

ONTO ASPARAGINE ACCEPTOR SITES WITHIN AN ASN-X-SER/THR CONSENS

MOTIF IN NEWLY SYNTHESIZED PROTEINS.

-! CATALYTIC ACTIVITY: DOLICHYL DIPHOSPHOLIGOSACCHARIDE + PROTEI
L-ASPARAGINE - DOLICHYL DIPHOSPHATE + A GLYCOPROTEIN WITH THE
                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
SEQUENCE
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MIM; 600797;
                                                                                          SEQUENCE FROM N.A. STRAIN-972;
                                                                                                                      Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetales;
Schizosaccharomycetaceae; Schizosaccharomyces.
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PROSITE; PS50003; PH_DOMAIN;
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or send an email to license@isb-slb.ch).
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POLY-PRO.
POLY-GLY.
POLY-SER.
POLY-ALA.
POLY-SER.
POLY-PRO.
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Pred. No. 3
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Mismatches
             DIPHOSPHOOLIGOSACCHARIDE + PROTEIN
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RESULT 13
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01-OCT-1996 (Rel. 34, La
01-OCT-2000 (Rel. 40, La
PLACENTA GROWTH FACTOR P
PGF OR PLGF.
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TRANSMEM
DOMAIN
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HUMAN
                                                                       expressed placenta."
                                                                                  "A heparin-binding for expressed in human umb
                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
SEQUENCE FROM N.A. MEDLINE; 93205407.
                                                          Growth
                                                                                                                                       MEDLINE;
                                                                                                                                                     SEQUENCE FROM N.A.
TISSUE-PLACENTA;
                                                                                                                                                                                                "Isolation of a human placenta cDNA coding the vascular permeability factor."; Proc. Natl. Acad. Sci. U.S.A. 88:9267-9271
                                                                                                                                                                                                                                                Maglione D.,
                                                                                                                                                                                                                                                                MEDLINE;
                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human)
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PATHWAY: GLYCOSYLATION.
SUBCELLULAR LOCATION: TYPE I
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SIMILARITY: TO MAMMALIAN RIBOPHORIN I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OLIGOSACCHARIDE CHAIN ATTACHED BY GLYCOSYLAMINE LINKAGE TO PROTEIN
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                                                        Factors 9:259-268(1993)
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ACTOR PRECURSOR (PLGF-1/PLGF-2).
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PUTATIVE DOLICHYL-
DIPHOSPHOOLIGOSACCHARIDE--PROTEIN
DIPHOSPHOOLIGOSACCHARIDE--PROTEIN
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                                                                                                                                                                                                 88:9267-9271(1991).
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EMBL; A18411; CAA01393.1; -
EMBL; $72960; AAB30462.2; -
HSSP; P15692; IVPF.
MIM; 601121; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Maglione D., Guerriero V., Viglietto G., Ferraro M.G., Aprelikova Alitalo K., del. Vecchio S., Lei K.-J., Chou J.Y., Persico M.G.; "Two alternative mRNAs coding for the angiogenic factor, placenta growth factor (PIGF), are transcribed from a single gene of chromosome 14.";
                                                                       CHAIN
DISULFID
DISULFID
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CARBOHYD
CARBOHYD
CARSPLIC
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Placenta growth factor. Potentiation of vascular endo factor bloactivity, in vitro and in vivo, and high aff to Flt-1 but not to Flk-1/KDR.", J. Biol. Chem. 269:25646-25654(1994).

-i- FUNCTION: GROWTH FACTOR OF UNKNOWN FUNCTION. BINDS VEGFR-1 (FLT1). THE LONGER FORM (PLGF-2) CAN ALSO IS ABLE TO POTENTIATE THE ACTION OF LOW LEVELS OF
                                                                                                                                                                                                                                                                                                                                                                                                                   entities requires a license agreement (See http://www.isb-sib.ch/announce) or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                       Heparin
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                               between the Swiss Institute of Bioinfo
the European Bioinformatics Institute.
use by non-profit institutions as Id
modified and this statement is not remo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oncogene 8:925-931(1993).
                                                                                                                                                                                                                                                                    Mitogen;
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                                                                                                                                                                                                                                                                                                                INTERPRO; IPR000072; PFAM; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPEARS TO REMAIN CELL ATTACHED UNLESS RELEASED BY HEPARIN.

ALTERNATIVE PRODUCTS: 2 ISOFORMS; PLGF-1 AND PLGF-2 (SHOWN HERE);
ARE PRODUCED BY ALTERNATIVE SPLICING. PLGF-1 DIFFERS FROM PLGF-2
IN LACKING A 21 RESIDUES SEGMENT IN THE C-TERMINAL SECTION WHICH
ACTS AS A CELL RETENTION SIGNAL.
TISSUE SPECIFICITY: WHILE BOTH FORMS ARE PRESENT IN MOST PLACENTAL
TISSUES, THE LONGER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL
AND ONLY THE SHORTER FORM IS FOUND IN THE COLON AND MAMMARY
CARCINOMAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PTM: N-GLYCOSYLATED. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBCELLULAR LOCATION: BOTH FORMS ARE SECRETED BUT THE LONGER FORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copyright. It is produced through a collable een the Swiss Institute of Bioinformatics and the EMBL outstitute. There are no restrictions European Bioinformatics Institutions as long as its content is in by non-profit institutions as long as its content is in field and this statement is not removed. Usage by and for confield and this statement is not removed.
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F00341; PDGF; 1.
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; PS50278; PDGF_2;
 Similarity
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                                                                                                                                                                                                                                                                    Glycoprotein; Signal;
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Potentiation of vascular endothelial growth
itro and in vivo, and high affinity binding
                                                                        ₩;
                                                                       INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENT
N-LINKED (GLCNAC. . .) (POTENT
MISSING (IN ISOFORM PLGF-1).
D -> N (IN REF. 1).
D -> N (IN REF. 1).
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BY SIMILARITY.
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             Score 41; DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HS7L_SBYV STANDARD;
P37092;
O1-OCT-1994 (Rel. 30, Created)
O1-OCT-1994 (Rel. 30, Last sequence update)
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HEAT SHOCK PROTEIN 70 HONOLOG.
HEAT SHOCK PROTEIN 70 HONOLOG.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Agranovsky A.A., Boyko V.P., Karasev A.V., Koonin E.V., Do "Putative 65 kDa protein of beet yellows closterovirus is of HSP70 heat shock proteins.";
J. Mol. Biol. 217:603-610(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Nucleotide sequence of the 3'-terminal half closterovirus RNA genome: unique arrangement J. Gen. Virol. 72:15-23(1991).
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MEDLINE; 91116305.
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              STRAIN-168
                         SEQUENCE FROM N.A.
                                                                  Bacillus subtilis.
Bacteria; Firmicutes;
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Pred. No. 8.5;
4; Mismatches
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EMBL; M17445; AAA22785.1; ALT_SEQ.

EMBL; Z99112; CAB13553.1; -.

PIR; A32269; A32269.

PIR; B32269; B32269.

PIR; B32269; B32269.

PIR; S09411; S09411.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wu L.J., Errington J.;

"Bacillus subtilis spoilie protein required for DNA segregation during asymmetric cell division.";

Science 264:572-575(1994).

-!- FUNCTION: REQUIRED FOR SPORULATION. IT IS REQUIRED FOR CHROMOSOME SEGREGATION INTO THE PRESPORE COMPARTMENT. MAY ALSO BE REQUIRED TO PREVENT SIGMA F FROM BECOMING ACTIVE IN THE MOTHER CELL. MAY BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE; 90014185.

Foulger D., Errington J.;

The role of the sporulation gene spoilie in the regulation prespore-specific gene expression in Bacillus subtilis.";

Mol. Microbiol. 3:1247-1255(1989).
                                                                                                                                                                                                                                                                                                                                                                                                            -!- SUBCELLULAR LUCATION INTEGRAL STATES -!- SIMILARITY: BELONGS TO THE FTSK/SPOILIE FAMILY.
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                                                                                                                                                                                                               SUBTILIST; BG10763; INTERPRO; IPRO02543;
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Q1-MAY-2000 (TrimbLrel. 13, Created)
Q1-MAY-2000 (TrimbLrel. 13, Last sequence update)
Q1-JUN-2000 (TrimbLrel. 14, Last annotation update)
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Q1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
Q1-JUN-2000 (TrEMBLIAL GROWTH FACTOR ISOFORM 121 PRECURSOR.
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Sato J.D., Whitney R.G.;
"Human cDNA for vascular endothelial growth factor isoform VEGF121.";
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF214570; AAF1659.1; -.
INTERPRO, IPR003072; -.
PFAM; PF00341; PDGF; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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PROSITE; PS00249; PDGF; 1.
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Pred. No. 8.7e-07;
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DDF4D6994249BED6 CRC64;
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Best Local S
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"Identification of a human VPE/VEGF 3'
hypoxia-induced mRNA stability.";
Mol. Biol. Cell 9:469-481(1998).
EMBL, ARC22375; AAC63143.1; -.
HSSP; P15692; 1VPP.
INTERPRO; IPRO00702; -.
PFAM; PBO0341; PDGF; I.
PRODOM; PD001629; -; I.
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060720;
01-AUG-1998
01-MAY-1999
01-JUN-2000 VEGF183 PROTI
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075875;
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Mammalia; Eutheria;
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EMBL; AF091352; AAD55345.1; -.
INTERPRO; IFR0000772; -.
PFAM; PFO0341; PDGF; 1.
PROSSITE; PS00249; PDGF; 1.
PROSSITE; PS00249; PDGF; 1.
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Eukaryota;
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Whittle C.J., Gillespie K.M.,
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EMBL; $85201; AAC63101.1; J
EMBL; $85219; AAC63101.1; J
EMBL; $85222; AAC63101.1; J
EMBL; $85222; AAC63101.1; J
HSSP; P15692; 2VPF
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Q16889;
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Q1-NOV-1998
Q1-JUN-2000
PROSITE;
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SIGNAL
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EMBL; S85224; AAC63101.1;
EMBL; S85199; AAC63101.1;
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EMBL; AF062645; AAC16730.1;
HSSP; P15692: 2VPF
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PRODOM; F
                                                                                                                      of RNA.
                                                                                                                                                                                    Eukaryota;
Mammalia;
                                     INTERPRO;
                                                                                                                              fourth molecular species
                                                                                                                                      Jouck K.A., Ferrara N., Winer J., "The vascular endothelial growth!
                                                                                                                                                 Houck K.A., Ferrara
                                                                                                                                                                                                     Homo sapiens (Human).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lei J., Jiang A., Pei D.;
"Identification and characterization of a new splicing variant vascular endothelial growth factor: VEGF183.";
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no sapiens (Himan).
narvota; Metazoa; Chordata; C.
harvata; Primates; C
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                                                                                                            Endocrinol. 5:1806-1814(1991).
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                           PRO; IPR000072; PF00341; PDGF;
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N [1]
SEQUENCE FROM N.A.

RESISTANCE

AVIVÍA., Resnick M.B., Nevo E., Joel A., Levy A.P.;
RA AVIVÍA., Resnick M.B., Nevo E., Joel A., Levy A.P.;
RT "Adaptive hypoxic tolerance in the subterranean mole rat Spalax
RT ehrenbergi: the role of vascular endothelial growth factor.";
RL FEBS Lett. 452:133-140(1999).
DR EMBL; AF186236; AAD56245.1; -
DR INTERPRO; IPR000072; -
DR PFAM; PF00341; PDGF; 1.
DR PROSITE; PS00249; PDGF; 1.
DR PROSITE; PS00249; PDGF; 1.
DR PROSITE; PS00249; PDGF; 1.
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"Ovine vascular endotheilal growth fa
expression in fetal tissues.";
Growth Factors 0:0-0(1998).
EMBL; AF071015; AAC23608.1; -.
HSSP: P15692; 2VGH.
INTERPRO. IPR000072; -.
PFAM; PF00341; PDGF; 1.
PRODOM; PE001629; PDGF; 1.
PRODOM; PD001629; -.
SEQUENCE 190 AA; 22342 MW; OD5E3E
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01-NOV-1998
01-JUN-2000
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
Spalax.
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01-MAY-2000 (TrEMBLTel. 13,
01-JUN-2000 (TrEMBLTel. 14,
VASCULAR ENDOTHELIAL GROWTH
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Eukaryota; Metazon; Chordata; Crania;

Mammalia; Eutheria; Cetartiodactyla;

Boyidae; Caprinae; Ovis.
                                                                                                                STRAIN-COLUMBIA-RAMBOULLIET; Cheung C.Y., Brace R.A.;
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Best Local S
Matches 14
                                                                                       Best Local
                                                                                                                          Query Match
Best Local (
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Best Local :
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                                                                                                                                                                                                                                           Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the EMB;
EMBL; AF133249; AAD29683.1; -
INTERPRO; IPRO00072; -
IPROSITE; PS00049; PDGF; 1.
PROSITE; PS00049; PDGF; 1.
SEQUENCE 208 AA; 24400 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Jingjing L., Roque R.S.;
Submitted (MAR-199) to the EMB;
EMBL; AR133248; AAD29682.1; -.
INTERPRO: IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 190 AA; 22292 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               O9XSF4

Q9XSF4;

Q1-NOV-1999 (TIEMBLIEL: 12, C
01-NOV-1999 (TIEMBLIEL: 12, L
01-JUN-2000 (TIEMBLIEL: 14, L
VASCULAR ENDOTHELIAL GROWTH F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9XSF3;
01-NOV-1999
01-NOV-1999
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VENER.
Canis familiaris (Dog).
Cukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia: Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1999 (TremBLrel. 12, 01-NOV-1999 (TremBLrel. 12, 01-JUN-2000 (TremBLrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Canis familiaris (Dog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9XSF3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; (
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97
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EESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EEFNITMQIMRIKPH 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EESNITMQIMRIKPH
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14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                       Similarity
                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                    82.6%;
93.3%;
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93.3%;
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                                                                                          Score 71; DB Pred. No. 1.6e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Last sequence up Last annotation FACTOR 164.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
FACTOR 182.
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                                                                                                                                                                                                                                                                                                                                                                                                      EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 71; DB 6;
Pred. No. 1.5e-05;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata;
; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                  CF77AC591F5C2BBE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2053500BC9085CE0 CRC64;
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, 1.5e-05;
1;
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                                                                                                                    DB 6;
1.6e-05;
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                                                                                                                                                                                                                                                                                                                                                                                                      databases
                                                                                                                                                    Length 208;
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                                                                                             Indels
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Canis.
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                                                                                          0;
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97

EEFNITMQIMRIKPH

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RESULT
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ID 097
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ID Q9QXG7
ID Q9Q
AC Q90
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Q9XSF5
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Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                       Query Match 82.0
Best Local Similarity 92.0
Matches 13; Conservative
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Submitted (MAR-1999) to the E
EMEL; AR133250; AAD29684.1; -
INTERPRO; IPRO0072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
097500
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Rattus norvegicus (Rat).

Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                         PROSITE;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                        Ishii H., Arakawa T., Okayama M.,
"Developmental expression of vascu
(VEGF-A) splicing variants, VEGF-A
masseter muscle.",
Submitted (DEC-1999) to the EMBL/G
EMBL; AF215725; AAF19211.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEGE: .
Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Cranidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9XSF5;
01-NOV-1999 (TrEMBLrel. 12,
01-NOV-1999 (TrEMBLrel. 12,
01-JUN-2000 (TrEMBLrel. 14,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Métazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                         NTERPRO; IPR000072; -.
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                                                                                                                                                          ESNITMQIMRIKPH
                                                                                                                                  ESNVTMQIMRIKPH 111
                                                                                                                                                                                                                                                                                                                                  PF00341; PDGF; 1.
TE; PS00249; PDGF; 1.
NCE 214 AA; 25239 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            214 AA;
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                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R.S.;
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93.3%;
                                                                                                                                                                                                                                               82.6%;
92.9%;
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VEGF-A188,
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                                                                                                                                                                                                                          Score 71; DB Pred. No. 1.7e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
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Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 71; DB 6; L. Pred. No. 1.7e-05; 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2269981AFBC60058 CRC64;
                                                                                                                                                                                                                                                                                                                                            60FBB876F5304946 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oota I.,
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1.7e-05;
0;
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thelial growth factor-A
F-A164, and VEGF-A120 i
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                                                                                                                                                                                                                                                                     Length 214;
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                                                                                          Query Match
Best Local S
Matches 13
                                                                                                                                                                                                                                                                                  LOW-frequency-stimulated rabbit muscle.";

Am. J. Physiol. 274:0-0(1998).

EMBL; AF022179; AAC15469.1; -.

HSSP; P15692; IVPP.

INTERPRO; IPROACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     097500;
01-MAY-1999 (TIEMBLE).
01-MAY-1999 (TIEMBLE).
1 01-JUN-2000 (TIEMBLE).
... CULAR ENDOTHELIAL G
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Best Local Similarity
Matches 13; Conserv
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018843;
01-JAN-1998
01-JAN-1998
01-JUN-2000
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Oryctolagus cunículus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-WHITE NEW ZEALAND;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR (FRAGMENT).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

Inoue K., Kawabe Y., Kodama T.;

"Rabbit VegF cDNA, partial.";

Submitted (NOY-1998) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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40 EEFNVTMQIMKIKPH
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                                    2 EESNITMQIMRIKPH 16
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P15692; 1VPP.
                                                                                            Similarity
13; Conserv
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PS00249; PDGF;
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(TrimbLrel. 10, Last sequence update)
(TrimbLrel. 14, Last annotation update)
DOTHELIAL GROWTH FACTOR (FRAGMENT).
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                                                                                              Conservative
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                                                                                                                                                                                                                                                             GF; 1.
PDGF;
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7819
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8720
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86.7%;
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86
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                                                                                          Score 70; DB 6;
Pred. No. 9e-06;
1; Mismatches
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Pred. No.
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8.2e-06;
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Matches 11; Conserv
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Best Local Similarity 92.9
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                   O42571 PRELIMINARY; PRT; 148 AA. 042571; O1-JAN-1998 (TrEMBLrel. 05, Created) O1-JAN-1998 (TrEMBLrel. 05, Last sequence update) O1-JUN-2000 (TrEMBLrel. 14, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR 122.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.

ISBILI H., ALAKAWA T., OKAYAMA M., Oota I., Takuma T., Inomata K.;

"Developmental expression of vascular endothelial growth factor A
(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat
masseter muscle.",

Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AF215726; AAF19212.1;

EMBL; AF215726; AAF19212.1;

EXPERPRO; IPRO00072;

PFAM; PF00341; PLGF; 1.

PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.
                                                                                                                                                                                                         SEQUENCE FROM N.A.
Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AF008593; AAB63679.1; -.
HSSP; P15692; 1VPP.
                                                                                                                                 INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSTITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE. 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR-A120.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                       Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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                                                                                                                                                                                                                                                                                                            Kenopodinae; Kenopus
101 NITMQIMKIKPH 112
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                 5 NITMQIMRIKPH 16
                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
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                                                                           69.8%;
91.7%;
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                                                          Score 60; DB 13; Length 148; Pred. No. 0.0013; Indels
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6.3e-05;
hes 1; Indels
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Best Local S
Matches 45
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                                                                                                                                                                                          22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                            Key
Modified-site
                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                               Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                The peptide bFGF(24-68)-NH2 (100mcg/ml) radioactive bFGF bound to the BHK cells affinity to bind heparin.
                                                                                                                                                                                                                                                                              US5252718-A
                                                                                                                                                                                                                                                                                                                                                                                                FGF antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                     05-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                         R43278;
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                                                                               New fibroblast growth factor peptide(s) used to inhibit cell growth in culture or retinopathy, glomerulonephritis, melanoma
                                                                                                                                                                                                                                                       12-OCT-1993.
                                                                                                                                                                    (SALK ) SALK INST BIOLOGICAL
                                                                                                                                                                                                                                    22-APR-1986;
Sequence
                                                             Example 1; Column 10; 12pp;
                                                                                                                            WPI; 1993-336156/42.
                                                                                                                                                Baird JA,
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 45 AA
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88US-0270225.
92US-0873773.
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                                                                                                                                                                                                                                                                                                            Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                peptide;
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Pred. No. 4.2e-26;
); Mismatches 0;
                                                                                                                                                                        STUDIES
                              reduces the amount of by 54% and shows strong
                                                                                             are FGF antagonists in disease e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
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Query Match

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Matches 45; Conserv

Conservative

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Score 239; DB 14; Pred. No. 4.2e-26; Wismatches 0;

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69

Query Match Best Local S Matches

oh 100.0%; similarity 100.0%; 45; Conservative 0

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Score 239; DB 9; Pred. No. 9.1e-26; Mismatches 0;

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                                  Using plasmid pTB796, E.coli MM294 was transformed, whereby the strain E.coli MM294/pTB796 was obtained, which (IFO 14701, FRM BP-1 harbors the plasmid pTB796 was obtained, which (IFO 14701, FRM BP-1 harbors the plasmid pTB796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its anglogenic action for e.g. thrombosis or arteriosclerosis. It can all anglogenic action for e.g. thrombosis or arteriosclerosis. A mutein be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular briand linkages are reduced or eliminated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human basic fibroblast growth factor; human bFGF mutein C86; growth promoting activity; growth stimulating activity; phage M13-PC86; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human basic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P81933
                                                                                                                                                                                                                                       Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, activity of capillary endotherial cells and
                                                                                                                                                                                                                                                                                                                                        Senoo M,
                                                                                                                                                                                                                                                                                                                                                                 (TAKE ) TAKEDA CHEMICAL IND KK
                                                                                                                                                                                                                                                                                                                                                                                           24-FEB-1987;
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Sequence
                                                                                                                                                                                                                Disclosure; ; lpp; English
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                             linkages are r
also N81971-97
                                                                                                                                                                                                                                                                                                             1988-258580/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
                                                                                                                                                                                                                                                                                                 N81990
                                                                                                                                                                                                                                                                                                                                         Krokava T,
  86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                             87JP-0042218
                                                                                                                                                                                                                                                                                                                                                                                                                       88EP-0102491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers 87..87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label=mutation_Lys_to_stopcodon
/note="creates AF1 II recognition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein;
                                                                                                                                                                                                                                                                                                                                         Igarashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ጅ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor
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                                                                                                                                                                                                                                                                                                                                          Sasada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mutein C86
                                                                                                                                                                                                                                              , growth stimulating angiogenic activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              45
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                                                                                                                                                                                 FERM BP-1661)
                                                            bridges
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residue sequence Pro-Asp-Gly-Arg which constitutes residues 36-35 basic FGF; it is also antagonistic to acidic FGF. The antagonist modulates growth of epithelial (and related) cells and can be use diagnostically or therapeutically, eg to treat proliferative diseases of eyes and kidneys, some types of tumours and adrenal vascularisation. It is able to bind with heparin or with the FGF

residues 36-39

of.

be used

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ycknggfflrihpdgrvdgvreksdphiklqlqaeergvvsikgv YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV

45 45

FGF antagonist

bFGF (24-68)-NH2

05-MAY-1994 R43278;

(first entry)

R43278 standard;

peptide;

45

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N

Query Ma Best Loc Matches

Local

Similarity

100.0%;

Score 239; DB 8; Pred. No. 4.2e-26;

Length Indels

45;

45;

Conservative

0,

Mismatches

0

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Gaps

0;

Match

Sequence

45

receptor. See also P71542, P71557, P71558 and P71561.

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Query Match
Best Local Similarity
Matches 45; Conserv
                                                                                                                                                                                         22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                         melanoma;
                                                                                                                                                                                                                                                                                                                                  Bovine;
                                                                                                                                                                                                                                                          US5252718-A
                                                                                                                                                                                                                                                                                 Key
Modified-site
                                                         The peptide bFGF(24-68)-NH2 radioactive bFGF bound to the affinity to bind heparin.
                                                                                                                  used
                                                                                                                                          WPI;
                                                                                                                                                                                                                                         12-OCT-1993
                                           Sequence
                                                                                        Example 1; Column
                                                                                                          retinopathy,
                                                                                                                           New
                                                                                                                                                          Baird JA,
                                                                                                                                                                         (SALK ) SALK
                                                                                                                                                                                                                          22-APR-1986;
                                                                                                                fibroblast growth factor peptide(s) d to inhibit cell growth in culture or
                                                                                                                                          1993-336156/42
                                                                                                                                                                                                                                                                                                                         basic fibroblast growth factor; antagonist; mitogen;
a; glomerulonephritis; retinopathy.
                                                                                                                                                         Ling NC;
                                           45
  100.0%;
ilarity 100.0%;
Conservative (
                                                                                                          glomerulonephritis,
                                                                                                                                                                          INST BIOLOGICAL STUDIES.
                                                                                                                                                                                          860S-0854843.
880S-0270225.
920S-0873773.
                                                                                                                                                                                                                           86US-0854843
                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                          /note-
                                                                                          10;
                                                                                         12pp;
                                                                  )-NH2 (100mcg/ml)
to the BHK cells
                                                                                                                                                                                                                                                                           "amidated'
    0;
                                                                                           English
     Score 239; DB 14;
Pred. No. 4.2e-26;
; Mismatches 0;
                                                                                                           melanoma
                                                                   reduces the amount of by 54% and shows strong
                                                                                                                    are FGF antagonists
in disease e.g.
                                                                                                            etc.
      Indels
                    Length
                      45;
      0
      Gaps
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25

69 45

Query Match Best Local S Matches

ch 100.0%; | Similarity 100.0%; | 45; Conservative (

0

Score 239; Depred. No. 9.1; Mismatches

DB 9; .1e-26; s 0;

Indels

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86;

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                                       Using plasmid p7B796, E.coli MM294 was transformed, whereby the strain E.coli MM294/p7B796 was obtained, which (IFO 14701, FRRM BP-1661) harbors the plasmid p7B796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. The mutein has high stability and is low in toxicity. The moutein has high stability and is low in toxicity. The moutein has high stability and is low in toxicity. The postoperative it issues or as a therapeutic drug based on its or postoperative it issues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human basic fibroblast growth factor; human bFGF mutein C86; growth promoting activity; growth stimulating activity; phage M13-PC86; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human basic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-OCT-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P81933;
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                                                                                                                                                                                                                                                        Mutein of basic fibroblast growth factor -
having fibroblast growth promoting activity,
activity of capillary endothelial cells and
                                                                                                                                                                                                                                                                                                                                                         Senoo M,
                                                                                                                                                                                                                                                                                                                                                                                                                 24-FEB-1987;
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                                                                                                                                                                                                                               Disclosure; ;
 Sequence
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                                linkages are reduced also N81971-97.
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    86
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    AA.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="creates
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/note="creates AF1 II recognition
                                                                                                                                                                                                                                English.
                                                                                                                                                                                                                                                                                                                                                              Igarashi K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor mutein C86
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                                                                                                                                                                                                                                                              , growth stimulating angiogenic activity
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                                                                                                                                                                                                                                                                                                              RESULT
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Best Local S
Matches 45
        26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
                                                                                                                           Modified-site
Modified-site
Modified-site
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19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation. Cys 70 and Cys 88 may be replaced by Ser, ans Ile 138 is replaced by Ser.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rhbFGF mutein C137 (encoded by N90407) lacks 9 C-terminal amino acids of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muteins of basic fibroblast growth factor - lacking carboxy terminal amino acids, having growth promoting and angiogenic activities.
                                                                               09-AUG-1989
                                                                                                      EP326907-A.
                                                                                                                                                                                                               rhbfGF mutein
                                                                                                                                                                                                                                       26-OCT-1989
                                                                                                                                                                                                                                                              P90565
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1989-228965/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP326907-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rhbFGF mutein C137
                                                        24-JAN-1989;
                                                                                                                                                                                         Basic
                                                                                                                                                                                                                                                                                      P90565 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TAKE ) TAKEDA CHEMICAL INDUSTRIES LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-AUG-1989
                                                                                                                                                                                                                                                                                                             15
                                                                                                                                                                                                                                                                                                                                                25
                                                                                                                                                                                                                                                                                                                                            fibroblast growth factor; mutein CS23C137
                                                                                                                                                                                                                                                                                                                                                                                            . Similarity
45; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sasada R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                      138
                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 239; DB 10; larity 100.0%; Pred. No. 1.6e-25; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        claim 9, page 22; Fig. 3; 41pp; english.
                                                                                                                                                                                                               CS23C137
        88JP-0016260.
88JP-0206968.
88JP-0235842.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         88JP-0016260.
88JP-0206968.
88JP-0235842.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA;
                                                                                                                            Location/Qualifiers
70
88
138
                                                       89EP-0101162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        89EP-0101162
                                                                                                                                                                                                                                                                                    protein; 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kurokawa T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            factor; mutein C137
                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Igarashi K;
                                                                                                                                                                                                                                                                                                                                                                                                                   Length 138;
                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                               69
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Matches 45
                                                                                                                                                                                            rhbFGF mutein CS23C137 (encoded by N90409) lacks 9 C-terminal amino acids of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation: Cys 70, Cys 88 and Ile 138 have been replaced by Ser
                                                                                                                                                                                                                                                                                                                                                         Muteins of basic fibroblast growth factor - lacking carboxy terminal amino acids, having growth promoting and angiogenic activities.
                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                            Disclosure; Fig. 14; 41pp; english.
                                                                                                                                                                                cell cultivation. (see P90563).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TAKE ) TAKEDA CHEMICAL INDUSTRIES LTD
                                 1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                          Sasada R,
                                                                                                                                                  138 AA;
                                                                 100.0%; llarity 100.0%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                             Kurokawa T,
                                                                   0
                                                                               Score 239; DB 10;
Pred. No. 1.6e-25;
                                                                   Mismatches
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Y17995
                                                            밁
                                                                                                                                                                                                                                     The invention relates to recombinant production of fusion proteins using CC fusion partners that lack leader sequences. The nucleic acids, vectors, cc host cells and methods disclosed may be used to recombinantly produce CC large quantities of fusion proteins, in which the fusion partner lacks a CC leader sequence, via fermentation culture according to standard CC recombinant DNA methodologies. The pollypeptide of interest is cleaved CC wariety of polypeptides may be produced in this manner including enzymes, CC growth factors, single chain antibodies DNA -/RNA- binding proteins, CC growth factors, single chain antibodies DNA -/RNA- binding proteins, CC membrane receptors, mutant [GFBP-3s and fragments of them. Additionally, CC the invention may be used in the screening of libraries of random CC polypeptides by assays for their biological function. When fused to an CC Interleukin-1-like (IL-1-like) polypeptide, the random peptides or a ccumulate in a protected cellular compartment in a soluble active form. CC Leaderless fusion proteins may be produced in a wide variety of host CC cells (e.g. Escherichia coll), in a soluble, active and easily crecoverable form at temperature at or close to the physiological optima CC for host cell growth. A wide variety of polypeptides, including those CC that are otherwise unstable or insoluble may be expressed as fusions with the II-1-like polypeptides or other leader deleted translocating CC poptides. Sequences y17992-996 represent five members of the II-1-like CC protein family.
                                                                                                                      Query Match
Best Local S
Matches 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12-MAY-1997;
02-AUG-1993;
02-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zhang
                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Recombinant production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-370500/31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fusion protein; leaderless fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human basic fibroblast growth factor (FGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-AUG-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y17995 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12-MAY-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CELT-)
                                                            10
                13
                                                        PΑ,
                                                                                                                     ch 100.0%; l Similarity 100.0%; 45; Conservative (
                                                                                                                                                                                                                               family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mascarenhas D,
                                                                                                                                                                                                132 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97US-0854811.
93US-0100744.
94US-0284784.
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on protein; fibroblast
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of fusion
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                                                                                                                      0;
                                                                                                                     Score 239; DB 20;
Pred. No. 1.5e-25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; interleukin-1; IL-1;
factor; FGF.
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                                                                                                                                                Length 132;
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Matches 45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human basic fibroblast growth factor; human bFGF mutein N14; growth promoting activity; growth stimulating activity; phage M13-PN14; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, growth stimulating activity of capillary endothelial cells and anglogenic activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human basic
                         P90563;
                                               P90563 standard;
                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; ; lpp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1988-258580/37.
N-PDSB; N81989.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Senoo M, Krokawa T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TAKE · ) TAKEDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-FEB-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-FEB-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EP281822-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-0CT-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P81932 standard; protein; 134 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-SEP-1988
                                                                                                                                                                       Local Similarity 100.
nes 45; Conservative
                                                                                                                  12 ycknggfflrihpdgrvdgvreksdphiklqlqaeergvvsikgv
                                                                                                                                1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQABERGVVSIKGV
                                                                                                                                                                                                                                           134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fibroblast growth factor mutein N14 from phage M13-PN14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHEMICAL IND KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88EP-0102491
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="creates EcoRI recognition site"
                                                 protein; 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'label≖mutation_Pro_to_Met
                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Igarashi K,
                                                                                                                                                                         ç
                                                                                                                                                                      Score 239; DB 9;
pred. No. 1.6e-25;
; Mismatches 0;
                                                  ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sasada
                                                                                                                                                                                                 Length 134;
                                                                                                                                                                       Indels
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26-0CT-1989

(first entry)

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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       In mutein has high stability and is low in toxicity.

It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated.
                                                                                                                                                                                                                                  26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
rhbFGF mutein C129 (encoded by N90406) lacks 18 C-terminal amino acids of basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing cf, eg burns, wounds and postoperative tissues, as a drug for thrombosis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, growth stimulating activity of capillary endothelial cells and angiogenic activity
                                                                                                                                                     WPI; 1989-228965/32.
                                                                                                                                                                                                                                                                                                                                           EP326907-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Using plasmid pTB856, E. coli MM294 was transformed, whereby the strain E.coli MM294/pTB856 was obtained, which harbors the plasmid pTB856 expressing the mutchi represented here. The amino acid sequence from Lys130 to Ser147 has been deleted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; ; 1pp;
                                                                                   Disclosure;
                                                                                                                                                                                                                                                                                       24-JAN-1989;
                                                                                                                                                                                                                                                                                                                  09-AUG-1989
                                                                                                                                                                                                                                                                                                                                                                      Basic
                                                                                                                                                                                                                                                                                                                                                                                                rhbFGF mutein
                                                                                                                                                                                                                                                                                                                                                                                                                          26-OCT-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P90562 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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DB; N81997.
                                                                                                                                                                                                                                                                                                                                                                    fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 Similarity
45; Conserv
                                                                                                          of basic fibroblast growth factor - lacking cids, having growth promoting and angiogenic
                                                                                                                                                                                                      TAKEDA CHEMICAL INDUSTRIES LTD
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                                                                                  claim
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                                                                                                                                                                                                                                                                                                                                                                                                                        (first
                                                                                                                                                                                                                                                                                                                                                                                                C129
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88JP-0206968.
88JP-0235842.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                  page
                                                                                                                                                                              Kurokawa
                                                                                                                                                                                                                                                                                                                                                                      factor; mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             129 AA
                                                                                 22; Fig. 8; 41pp; english
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 239; DB 9;
Pred. No. 1.5e-25;
; Mismatches 0;
                                                                                                                                                                             Ή,
                                                                                                                                                                             Igarashi
                                                                                                                                                                                                                                                                                                                                                                      C129
                                                                                                                                                                              7.
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                                                                                                           carboxy terminal activities.
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Local

1 Similarity 45; Conserv

Conservative

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Score 239; I Pred. No. 1.5); Mismatches

DB 10; ..5e-25; s 0;

Indels Length

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Gaps

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Match

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RESULT
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Best Local
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                                                                                                                                                                                                       26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
                           rhbFGF mutein C$23C129 (encoded by N90408) lacks 18 C-terminal AAs of basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation. Cys 70 and Cys 88 have been replaced by Ser
                                                                                                                                                 WPI;
Sequence
                  (see
                                                                                                   Disclosure;
                                                                                                                       amino acids,
                                                                                                                                                                    Senoo
                                                                                                                                                                                     (TAKE ) TAKEDA
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                                                                                                                                                                                                                                                                                                  Modified-site Modified-site
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                                                                                                                                                                                                                                                                                                                                                          rhbFGF mutein CS23C129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  arteriosclerosis,
Cys 70 and Cys 88
                                                                                                                               Muteins
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                                                                                                                                                                                                                                                                                                                                         Basic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                   11
                  cultivation. P90562).
                                                                                                                                                  1989-228965/32.
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                                                                                                                                                                                                                                                                                                                                         fibroblast
                                                                                                                              of basic fibroblast growth factor -
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                                                                                                                                                                   Sasada R,
129
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                                                                                                   Fig. 13;
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                                                                                                                     having
                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                        88JP-0016260.
88JP-0206968.
88JP-0235842.
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                                                                                                                                                                                                                                                                                                   Location/Qualifiers 70 88
                                                                                                                                                                                                                                                                                                                                        growth factor; mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or as a may be
                                                                                                                      growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                   41pp; english.
                                                                                                                                                                    Kurokawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a reagent to
e replaced by
                                                                                                                     promoting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 239; DB 10;
Pred. No. 1.5e-25;
Mismatches 0;
                                                                                                                                                                    'n
                                                                                                                                                                                                                                                                                                                                                                                                                  A
                                                                                                                                                                   Igarashi
                                                                                                                                                                                      LID
                                                                                                                      and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  accelerate cell cultivation. Ser (see P90564).
                                                                                                                     r – lacking
angiogenic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45
                                                                                                                      carboxy terminal activities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129;
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RESULT P90561 ID P9 XX P9 AC P9 XX DT 26 XX Th CKW Ba
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Best Local S
Matches 45
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Best Local S
Matches 45
                                                                          P90561 standard;
                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                            arteriosclerosis,
                                                                                                                                                                                                                                   rhbFGF mutein C118 (encoded by N90404) lacks 29 C-terminal amino acids of basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, egunns, wounds and postoperative tissues, as a drug for thrombosis or
                                                                                                                                                                                                                                                                                             Disclosure; Fig. 6; 41pp; english.
                                                                                                                                                                                                                                                                                                                                            WPI; 1989-228965/32.
                                                                                                                                                                                                                                                                                                                                                              Senoo
                                                                                                                                                                                                                                                                                                                                                                                                   19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                        24-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Basic fibroblast growth factor; mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rhbFGF mutein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P90560;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P90560 standard; protein; 118 AA.
Basic fibroblast growth factor; mutein
                  rhbFGF mutein
                                                        P90561;
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                                     26-OCT-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acids,
                                                                                                                                                             45;
                                                                                                                                                                                                                                                                                                               of basic fibroblast growth factor - lacking carboxy terminal cids, having growth promoting and angiogenic activities.
                                                                                                                                                           Similarity 100.
45; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                             Sasada R,
                                                                                                                                                                                                          118 AA;
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llarity 100.0%;
Conservative (
                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first
                  C123.
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88JP-0206968.
88JP-0235842.
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                                                                          peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entry)
                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                            as a reagent to accelerate cell
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                                                                                                                                                            0,
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Pred. No. 1.3e-25;
                                                                                                                                                           Score 239; DB 10;
Pred. No. 1.3e-25;
Mismatches 0;
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C123.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                            Length 118;
                                                                                                                                                            Indels
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                                                                                                                                                                                                                            cultivation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              114;
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P81940
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19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                             rhbFGF mutein Ci23 (encoded by N90405) lacks 24 C-terminal amino acids basic fibroblast growth factor. It has high fibroblast growth promotin vasoendothelial cell growth promoting, and angiogenic activities, and high stability and low toxicity. It is used to accelerate healing of, burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation.
                                             24-FEB-1987;
                                                                                                                               Misc-difference
                                                                                                                                           Key
                                                                                                                                                                            capillary
                                                                                                                                                                             Human basic fibroblast growth factor; human bFGF mutein growth promoting activity; growth stimulating activity; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                         P81940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig. 7; 41pp; english.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1989-228965/32.
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        Senoo M,
                          (TAKE ) TAKEDA CHEMICAL IND KK
                                                                20-FEB-1988;
                                                                                  14-SEP-1988
                                                                                                    EP281822-A.
                                                                                                                                                            Synthetic
                                                                                                                                                                                                                   Human basic
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                                                                                                                                                                                                                                                                          P81940 standard;
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45; Conserv
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        Krokawa
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                                                                                                                                                                                                                  fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 having
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88JP-0206968.
88JP-0235842.
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                                              E7JP-0042218
                                                                88EP-0102491
                                                                                                                               Location/Qualifiers 129..129
                                                                                                                     /label=mutation_to_stopcodon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fibroblast
                                                                                                                                                                                                                                                                           protein;
        H,
                                                                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 growth
                                                                                                                                                                                                                                                                                                                                                                       100.0%;
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       Igarashi K,
                                                                                                                                                                                                                                                                           129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 promoting and a
                                                                                                                                                                                                                                                                                                                                                             Score 239; DB 10;
Pred. No. 1.4e-25;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T,
                                                                                                                                                                                                                   factor
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         Sasada
                                                                                                                                                                                                                   mutein C129
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angiogenic
                                                                                                                                                                                                                  from
                                                                                                                                                                                                                                                                                                                                                             Indels
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123; 0

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plasmid

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RESULT
P90557
P90558 P9
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26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
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19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rhbFGF mutein CS102 (encoded by N90401) lacks 46 C-terminal AAs of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig. 3; 41pp; english
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Muteins of basic fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-JAN-1989;
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                                                                                                                                        09-AUG-1989
                                                                                                                                                                                        EP326907-A.
                                                                                                                                                                                                                                    Basic fibroblast growth
                                                                                                                                                                                                                                                                                  rhbFGF mutein
                                                                                                                                                                                                                                                                                                                                                                          P90558;
                                                                                                                                                                                                                                                                                                                                                                                                                     P90558 standard; protein; 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sasada R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         having
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CS102
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88JP-0206968.
88JP-0235842.
                                                                                                                                                                                                                                                                                CS105.
88JP-0016260.
88JP-0206968.
88JP-0235842.
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                                                                                            89EP-0101162
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            factor; mutein CS102.
                                                                                                                                                                                                                                    factor; mutein CS105.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 239; DB 10;
Pred. No. 1.1e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Igarashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           factor - lacking carboxy terminal
ng and angiogenic activities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LTD.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101;
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P90559
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Best Local S
Matches 45
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                                                                                                                                                                                                                                   26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure;
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amino acids,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI;
                   rhbrGF mutein C114 (encoded by N90403) lacks 33 C-terminal amino acids of basic fibroblast;growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation.
                                                                                                                                                                                                                                                                                                                                                                               rhbFGF
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                                                                                                                                                                                                                                                                                                          09-AUG-1989.
                                                                                                                                                                                                                                                                                                                                                        Basic fibroblast growth
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                                                                                                       Disclosure;
                                                                                                                               amino
                                                                                                                                       Muteins of
                                                                                                                                                                WPI; 1989-228965/32.
                                                                                                                                                                                      Senoo M,
                                                                                                                                                                                                                                                                                  24-JAN-1989;
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nes 45; Conserv
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                                                                                                                               acids,
                                                                                                                                                                                                                                                                                                                                                                               mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard; peptide; 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of basic fibroblast growth factor - lacking carboxy tercids, having growth promoting and angiogenic activities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sasada R,
                                                                                                                                                                                      Sasada R,
                                                                                                                            basic fibroblast growth factor -
s, having growth promoting and ang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    105 AA;
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                                                                                                      Fig. 5;
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                                                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                               C114
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38JP-0235842.
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                                                                                                       41pp; english.
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                                                                                                                                                                                       Kurokawa
                                                                                                                                                                                                                                                                                                                                                         factor;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 239; DB 10;
Pred. No. 1.2e-25;
; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                         mutein
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                                                                                                                                                                                                               LTD.
                                                                                                                                                                                                                                                                                                                                                          C114
                                                                                                                               r - lacking carboxy terminal
angiogenic activities.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               carboxy terminal
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Best Local :
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                                                                  The peptide I radioactive I affinity to I
                                                                                                                                                                                                                                22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   residue sequence Pro-Asp-Gly-Arg which constitutes residues 36-39 basic FGF; it is also antagonistic to acidic FGF. The antagonist modulates growth of epithelial (and related) cells and can be used diagnostically or therapeutically, eg to treat proliferative diseases of eyes and kidneys, some types of tumours and adrenal vascularisation. It is able to bind with heparin or with the FGF
                                                                                                                           New fibroblast growth factor peptide(s) - used to inhibit cell growth in culture or retinopathy, glomerulonephritis, melanoma
                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                           Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                         FGF antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                             05-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R43278;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                Sequence
                                                                                                         Example 1; Column 10; 12pp;
                                                                                                                                                                     WPI; 1993-336156/42.
                                                                                                                                                                                          Baird
                                                                                                                                                                                                                                                                        22-APR-1986;
                                                                                                                                                                                                                                                                                           12-OCT-1993
                                                                                                                                                                                                                                                                                                                US5252718-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 See also P71542, P71557, P71558 and P71561.
                                                                                                                                                                                                            (SALK ) SALK INST BIOLOGICAL
                                                                                                                                                                                                                                                                                                                                             Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard;
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5
                                                                            bFGF (24-68)-NH2 (100mcg/ml) bFGF bound to the BHK cells
                                                                   bind heparin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
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88US-0270225.
92US-0873773.
                                                                                                                                                                                                                                                                                                                                                                                                                         bFGF(24-68)-NH2
                                                                                                                                                                                                                                                                       86US-0854843
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                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4.
                                                                                                          English
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                                                                                                                                                                                                              STUDIES
Score 239; DB 14;
Pred. No. 4.2e-26;
: Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 239; DB 8;
Pred. No. 4.2e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                            reduces the amount of by 54% and shows strong
                                                                                                                             are FGF antagonists in disease e.g. etc.
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Score 239; DB 9; Pred. No. 9.1e-26; ; Mismatches 0;

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                                  Using plasmid p7B796, E.coli MM294 was transformed, whereby the strain E.coli MM294/p7B796 was obtained, which (IFO 14701, FERM BP-1 harbors the plasmid p7B796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can all be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular briand linkages are reduced or eliminated.
                                                                                                                                                                                                                               Mutein of basic fibroblast growth factor having fibroblast growth promoting activ activity of capillary endothelial cells:
                                                                                                                                                                                                                                                                                                                                                                                                    20-FEB-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     EP281822-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human basic fibroblast growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P81933 standard;
Sequence
                                                                                                                                                                                                        Disclosure; ; lpp; English
                                                                                                                                                                                                                                                                                                                          Senoo
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                                                                                                                                                                                                                                                                                                                                                                                                                             14-SEP-1988
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       capillary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        growth promoting activity; growth stimulating activity; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human basic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-OCT-1990
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                          also
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SB; N81990.
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                          N81971-97.
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 86
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 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                  88EP-0102491
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label-mutation_Lys_to_stopcodon
/note-"creates AF1 II recognition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein;
                                                                                                                                                                                                                                                                                                                          'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entry)
                                                                                                                                                                                                                                  wth promoting activity, endothelial cells and
                                                                                                                                                                                                                                                                                                                           Igarashi K,
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                                                                                                                                                                                                                                                                                                                             Sasada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human bFGF mutein
                                                                                                                                                                                                                                  , growth stimulating angiogenic activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C86 from
                                                      intermolecular bridges
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    $
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RESULT RESULT RATE PRODUCT PRO
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Query Match
Best Local Similarity
Matches 45; Conser
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Best Local
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14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           residue sequence Pro-Asp-Gly-Arg which constitutes residues 36-39 of basic FGF; it is also antagonistic to acidic FGF. The antagonist modulates growth of epithelial (and related) cells and can be used diagnostically or therapeutically, eg to treat proliferative diseases of eyes and kidneys, some types of tumours and adrenal vascularisation. It is able to bind with heparin or with the FGF
                                                                                                                  Sequence
                                                                                                                                                                The peptide bFGF(24-68)-NH2 (100mcg/ml) radioactive bFGF bound to the BHK cells affinity to bind heparin.
                                                                                                                                                                                                                                                                                                                      New fibroblast growth factor peptide(s) - used to inhibit cell growth in culture or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US5252718-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-MAY-1994 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R43278 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1993-336156/42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12-OCT-1993
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FGF antagonist bFGF(24-68)-NH2.
                                                                                                                                                                                                                                                             Example
                                                                                                                                                                                                                                                                                                   retinopathy, glomerulonephritis, melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-APR-1986;
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45; Conservative
                                                                                                                                                                                                                                                           <u>ب.</u>
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                                                                                                                                                                                                                                                           Column 10;
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         Conservative
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88US-0270225.
92US-0873773.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              peptide;
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    Score 239; DB 14;
Pred. No. 4.2e-26;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 239;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
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. 4.2e-26;
ches 0;
                                                                                                                                                                                   reduces the by 54% and s
                                                                                                                                                                                                                                                                                                        etc.
                                                                                                                                                                                                                                                                                                                           are FGF antagonists in disease e.g.
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              Query Match
Best Local
                                                                                                                         Using plasmid p7B796, E.coli MM294 was transformed, whereby the strain E.coli MM294/p7B796 was obtained, which (IFO 14701, FERM BP-1661 harbors the plasmid p7B796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridge and liberos are reduced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human basic fibroblast growth factor; human bFGF mutein growth promoting activity; growth stimulating activity; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                              Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, growth stimulating activity of capillary endothelial cells and anglogenic activity
                                                                                                  and linkages are reduced or eliminated. See also N81971-97.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Senoo M, Krokava T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EP281822-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human basic
                                                                      Sequence
                                                                                                                                                                                                                                                                                                  Disclosure; ; lpp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-FEB-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-1988.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-OCT-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P81933 standard; protein; 86 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TAKE ) TAKEDA CHEMICAL IND KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1988-258580/37.
                                                                      86 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fibmoblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E7JP-0042218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88EP-0102491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers 87..87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label=mutation_Lys_to_stopcodon
/note="creates AF1 II recognition site"
                    100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Igarashi
Score 239; DB 9;
Pred. No. 9.1e-26;
); Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 factor mutein C86 from
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                                                                                                                                                                                                                                                                                                                                                                                                                                    Sasada
                            Length
                                                                                                                               intermolecular bridges
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                                                                                                                                                                                                                                                  whereby the
14701, FERM BP-1661)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C86;
phage Ml3-PC86;
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Searched:
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                   Score
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1: /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*

2: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*

3: /SIDS1/gcgdata/geneseq/geneseqp/AA1982.DAT:*
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Gapop 10.0 , Gapext 0.5
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239
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                                                                                                                   P71559
R43278
P81933
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                                                             P81940
                                                                                                 P90560
                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Search time 94.87 Seconds (without alignments) 16.219 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             268485
Human basic fibrob
rhbFGF mutein CS10
rhbFGF mutein CS10
rhbFGF mutein CS10
rhbFGF mutein C114
rhbFGF mutein C118
rhbFGF mutein C123
Human basic fibrob
rhbFGF mutein C129
rhbFGF mutein C129
rhbFGF mutein C129
                                                                                                                                                                                                           Fibroblast Growth
                                                                                                                                                                                                                                                Description
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	819	9	147	00.	239	5
basic	191	9	147	00.	239	44
Human basic fibrob	191	9	147	00.	239	43
Ηh	819	9	147	00.	239	42
	19	21	146	٠	239	41
jc	87	20	146	00.	239	40
t g	பா	15	146	•	239	39
rt	ŧπ	15	146	•	239	38
H	UП	15	146	•	239	37
r	R65926	15	146	•	239	36
oblast g	UЛ	15	146	٠	239	35
mutein	R42835	14	146	•	239	34
	R39188	14	146	٠	239	33
basic	R39190	14	146	٠	239	32
	R34494	14	146	•	239	ω,
alian ba	R27717	13	146	•	239	30
mutein	R27967	13	146	100.0	239	29
mutein	R27966	13	146	•	239	28
mutein	R27965	13	146	•	239	27
ıtein B	R27964	13	146	•	239	26
ne basic	R25943	13	146	•	239	25
bFGF derivative	42	13	146	•	239	24
Basic fibroblast	R25197	13	146	•	239	23
C	R11427	12	146	8	239	22
σ	P82579	ø	146	00.	239	21
fibrobl	P71145	ω	146	8	239	20
Human basic fibrol	R25913	13	145	00.	239	19
ce of	R24408	13	145	00.	239	18
bro	R03964	11	144	00.	239	17
	P81937	9	139	00.	239	16
rhbFGF mutein	P90565	10	138	100.0	239	15
F mutei	P90563	10	138	00.	239	14
Human basic fibrob	P81932	9	134	00.	239	13

ALIGNMENTS

RESULT P71559

P71559 standard; Protein; 45 AA.

01-MAY-1991

(first entry)

P71559;

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₩X SX XX
                                                                                                                                                                                                                                             4
      CCXXX PTTXXX PXXX PTTXXX
The C-terminal group is -NH2 or -OH. The sequence includes the four
                                                       New polypeptide antagonists of fibroblast growth factor - effective against basic or acidic forms, useful eg for treating proliferative diseases
                             Claim 7; Page 15; 18pp; English.
                                                                                                                                     Baird AJ, Ling NCK;
                                                                                                            WPI; 1987-328974/47.
                                                                                                                                                                  (SALK ) SALK INST FOR BIOL STUD.
                                                                                                                                                                                            22-APR-1986;
                                                                                                                                                                                                                     21-APR-1987;
                                                                                                                                                                                                                                                 25-NOV-1987.
                                                                                                                                                                                                                                                                          EP246753-A.
                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                                                                                                                                                                                                                                                                            fibroblast growth factor; FGF; heparin-binding
                                                                                                                                                                                                                                                                                                                                                     Fibroblast Growth Factor antagonist #4.
                                                                                                                                                                                            36US-0854843.
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Creation date: 01-22-2004

Indexing Officer: FPLUMMER - FRANCIS PLUMMER

Team: OIPEBackFileIndexing

Dossier: 09266543

Legal Date: 09-13-2001

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